LAND TENURE AND LAND USE AMONG
THE MOUNT LAMINGTON OROKAIVA

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Foreword

The New Guinea Research Unit's current program includes a comparative study of changing agricultural and social systems among a number of groups of the Orokaiva people of Papua's Northern District. A wide variety of schemes for the development of agricultural land has been introduced there, especially over the last decade. As groups to be studied, samples were chosen which currently differ in their systems of land tenure, social organization and management of labour resources - to name the more striking general areas of difference without mention of factors which may be constant.

For the present report fieldwork was conducted at Sivepe village (also known as Sive) during December 1962 and January, February and early March 1963 with a brief visit again in May 1963. The basic subject of our study was a sample of 50 villagers.

Work in the field was shared by Burau, Ferraris and Rimoldi. Of the results which are presented below, the substance of the observations on types of subsistence crops and associated methods of cultivation and on the techniques currently used in the husbandry and production of livestock and of cash-crops at Sivepe1 is the contribution of Ferraris. He also prepared the preliminary drafts of maps from which he did most of the basic calculations of sizes of landholdings and areas under cultivation.

Among other tasks in the field, Burau had the role of interpreter. He also clarified many aspects of the relation of the Orokaiva to their land and contributed points to most parts of the report.

Our thanks are due to the people of Sivepe for their hospitality and co-operation, to Mr and Mrs C.E. Searle, who in many ways provided valuable assistance, to Mr and Mrs R. Cheetham, to the staff of the Department of District Administration, the Native Lands Commission and of the Anglican Mission at Agenahambo and Sasembata, who all gave generous help. For information and discussion we are indebted to these people, to Mr H. Plant, Mr R. Spinks and especially to Mr G. Hogbin, Mr P. Krinks and Mr E. Waddell.

1 See Chapter 2, Sections b. and c. and Chapter 4, Section c.
We were fortunate in the extensive assistance and guidance which we received from Dr R.G. Crocombe in conducting the survey and at all stages in the preparation of the manuscript. Drs Bettison, Brookfield and Brown also read drafts of this report and we are grateful for their comments which we found valuable in revising the manuscript.

We wish also to acknowledge the co-operation of the Statistician, Bureau of Statistics, Papua, who made available the data from the Food and Agriculture Organization Survey, and of the trustees of the Mitchell Library, Sydney, who gave permission to quote from F.E. Williams' papers in their collection.
There is no local consensus as to which peoples in the Northern District should be regarded as Orokaiva (see Williams 1930:1-4), but all the peoples concerned recognize that they have a relatively uniform culture and speak mutually intelligible dialects of one language. The people in this culture area number at least 25,000.

Although they did not have an inclusive name for themselves until 'Orokaiva' was introduced by Europeans, they generally drew the distinctions among themselves between river people, salt water people, and inland people (umo-ke, eva'embo and periho). There are wide-spread traditional beliefs dealing with the common origins not only of these different categories of people, but also of mutually hostile tribes, the largest political units among them, and of the various dialectal groupings and local cultural variants, which correspond to a limited extent with the political division into tribes.¹

Our study of Sivepe was designed to complement a study of land, work and productivity at Inonda village (Crocombe and Hogbin 1963) and other related studies in the area (Dakeyne 1965; Howlett 1965; Crocombe 1964; and Cheetham). We attempt no general comparison with the results of the other studies at this stage.

Because land tenure problems were central to our investigations, the groups at Inonda and Sivepe were chosen from villages in the Higaturu Native Local Government Council area which is occupied by about 12,000 of the Orokaiva. In 1956 this council adopted a scheme to register individual title to parcels of land which would be allocated by land-holding groups to individual members for use as cash-crop gardens. The scheme had encountered several

¹ See Williams 1930:155; W.47, 140, 148; 0.40, 411, 486, 598, 640; Folktales Nos.45, 54. W.47,... 0.40,... Folktales, etc., refer to the notation used by Williams in his fieldnotes, see Bibliography, p.121.

3
obstacles, but the policy of registering villagers' land was being implemented at the time of our surveys.

Inonda and Sivepe alike had experience with their council's registration scheme. The principal reason for working with these villages in particular is that they may be regarded as typical of two extremes among local communities in the council area. The following conspicuous variation was taken into account, in view of the need to investigate the relation of local conditions and problems to economic change in general and to the council's tenure scheme in particular.

Sivepe is located in the Saiho Census Division which has an overall population density of 75 persons per square mile, but there are local concentrations of much higher density, for example, 237 persons per square mile at Sivepe; the density of the Saiho Division is the highest in the Northern District and the third highest among the rural census divisions in Papua, but does not approach the densities found in several places in the New Guinea Highlands. The density of the Buna Census Division where Inonda is situated is about 8 persons per square mile, the lowest among the Orokaiva.

The average size of Saiho villages is about 175 persons, compared with an average of 100 in the Buna Census Division. The Sivepe people live on the highly fertile slopes of Mt Lamington, receiving an annual rainfall of about 160 inches; Inonda's land is lower, flatter and comparatively poor and receives about 95 inches a year. Inonda is 11 miles from Popondetta on the road to Oro Bay and Sivepe is roughly twice as far from the township, along a road leading inland.

For brevity we will speak of the 'mountain Orokaiva' as an alternative to 'Mount Lamington Orokaiva'. (See Keesing 1951:5-6.) This group, we believe, was the largest socio-political unit, the

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1 For an account of the developments of the registration scheme see Crocombe and Hogbin 1963:89-93.

2 Population is over 8,000 and there are 8.6 acres available per head in the census division. The personal opinion of at least some local officers has been that local densities of 200, and more, persons per square mile are not at all rare in the division.

3 After Kaipi, Gulf District and Kuboma, Milne Bay District.

4 However, Keesing (1951:2) maintained that these Orokaiva on the Mt Lamington slopes achieved 'perhaps the densest settlement patterns of any of the shifting "dry" cultivators in the New Guinea area'.
tribe, which included Sivepe. It occupied the volcanic slopes under fairly uniform and distinctive ecological conditions. The mountain Orokaiva now include roughly the 8,000 people in the closely-settled Saiho Census Division areas, that is, the people who have been called 'Wasida' or 'Periho'. They also include the members of the few adjacent villages who are the only 'Sangara' people surviving the 1951 eruption of the volcano.

Belshaw (1951:2) reported that among the mountain Orokaiva until 1951 'the residential group...consisted of a number of separated hamlets.... Hamlets grouped themselves together under a common name, such as Wasita 1, Isivita 1, Isivita 2 etc.... Each hamlet group, or "village" in administrative parlance, was separated geographically from its neighbouring hamlet group'. The two 'villages', Isivita 1 and 2, had comprised 19 named 'hamlets' and represented the Isivita 'native district' which, Plant\(^1\) (1951: Appendix 4) says was joined with the Sasembata (8 hamlets), Koropata, Wasita, Awala, Soroputa, Sairopi, Mumuni and Wairopi districts\(^2\) to form the Periho tribe. This 'closely approximates to' what Williams called the Wasida tribe.

Shortly before the eruption of Mt Lamington in 1951, Sivepe, Binduta, Nahihita, Pusahambo, Korinasusu and Heherita\(^3\) were grouped under the name of Awala 2 and had a total population of 250,\(^4\) compared with the range of 150 to 400 which Belshaw (1951:2) attributes to 'hamlet groups' in the area. There is a radical difference in size between the small hamlet described by Belshaw and the characteristic nucleated village of post-eruption years (excluding interim evacuation 'camps'). Nevertheless, we hereafter refer to both as a 'village' when not quoting. This does not

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1 Plant uses the term 'village group' for Belshaw's 'hamlet group' or 'village'. Williams (1930:131) refers to Belshaw's 'hamlet' sometimes as a 'village' and sometimes as a 'village group'.

2 He earlier (1951:3) omitted Mumuni and Wairopi - see p.31. On Map 1 see Hururuta for Mumuni District, and Ombisusu-Ajeka area for Wairopi District; the Sairopi people are about 4 miles south of the Mumuni.

3 The last 3 'hamlets' were not re-formed after the eruption; another which was established about this time took the name Awala No.2.

4 In a sample of 50 nearby hamlets in other groups in the Saiho Census Division the average hamlet size was 36 persons as against 41 in this group. Note also that in 1923 the Awala hamlets (including those in Awala 1) may have numbered 15 (Williams: W.83).
obscure any important differences in structure and our historical data are not complete enough to permit of consistent distinctions, according to size, between 'hamlets' and 'villages'. The village of Sivepe now has a population of 120 and is linked with Binduta, several hundred yards away, and with Nahihita half a mile away, to form a unit in Administration censuses. The 3 villages, together with Awala No.2,\(^1\) form a local government council electorate.

Sivepe is situated on the western bank of the Sohu River, a tributary of the Kumusi River, about 25 miles by road south-west of Popondetta and roughly 7 miles north-west of the crater of Mt Lamington. It is on a jeep road leading from Kendata, high on the Mt Lamington slopes, to Awala, which lies 3½ miles north of Sivepe on the Kokoda-Popondetta road. The minor road was constructed in about 1944 following the route of an old track. Between Awala and Sivepe it is marked by the sites of 9 abandoned villages, first visible indication of the history of close settlement on the country it traverses.

There were very few facilities for formal education in this tribal area until shortly after the second world war when a number of mission schools, staffed by Papuan teachers, were established through the area and 'minor elementary education was brought to over 90% of children of a varied age range' (Belshaw 1951:2).

An Anglican Mission primary school was established at Sasembata, 1 mile south of Sivepe, in 1945 and a European teacher has been on the staff since 1951; 9 of the 13 children of approximately school age in the group we studied now attend.\(^2\) Some children from Sivepe are pupils at Martyrs' Anglican Mission school several miles away at Agenahambo. A primary T school\(^3\) was established at Awala in 1961 but no Sivepe children are pupils there.

Several villagers regularly attend the church at Sasembata, which is in the charge of a Papuan priest, and most make periodic use of the medical services provided by the mission sister. Some women consult an infant welfare clinic formerly available at the mission on alternate Tuesdays and some have joined a women's sewing class held on Wednesdays.

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\(^1\) To be distinguished from Awala 2, the 'hamlet group'.

\(^2\) The ages of pupils in the 4 grades would range roughly from 5 to 15 years.

\(^3\) A government school for Papuans at which the curriculum is adjusted to the needs or sophistication of the local pupils - as distinct from primary A schools, attended almost wholly by European children, where the syllabus is set by the N.S.W. Department of Education.
The Public Health Department maintains a large base hospital at Saiho, 5 miles from Sivepe. A vegetable market at Saiho, originally established to supply the hospital, now serves a wider range of customers and at present is open every Thursday and Saturday (E. Waddell: personal communication). A few Sivepe people in our sample sell vegetables there regularly but seldom buy anything except lime (for chewing with betel nut). There are well-stocked trade stores at Saiho and Awala and a Savings Bank agency at Awala. In 1963 a trade store was established near Sasembata, by a member of Kongahambo village.

We could not complete this introductory sketch of local facilities and conditions without noting the traumatic experiences of the mountain Orokaiva during the life-span of the older men. Even an abbreviated description of local attitudes towards introduced economic and social changes such as we attempt later, would be inadequate unless it alluded to the likely deep impact of the following events.

First, the early government patrols, which encountered widespread opposition from the Orokaiva, were attacked most persistently by the 'Wasida' people who include the Sivepe villagers. Fighting was fierce and many of the old men we talked to had seen close relatives killed or wounded.

Second, during World War II the paths of advance and retreat of Australian and Japanese troops crossed this area and the Orokaiva were 'drawn in as helpers, willingly or unwillingly, on both sides of the lines'.\(^1\) Some Orokaiva groups also became involved in intertribal skirmishes at this time - during our stay an imminent military exercise occasioned apprehensions among some Orokaiva about a possible resumption of dormant intertribal conflict at the time of the exercise.

Scattered for safety in the bush while the wartime campaigns swept the area, many people in the neighbourhood of Sivepe died of malnutrition. In addition, there was very thorough recruiting of local men for subsequent phases of the war elsewhere in the Territory. In 1948 patrol staff reported that there was cause for concern in the continued decline in population.\(^2\) At this

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\(^1\) Keesing 1951:8. For an account of this episode see McCarthy 1959: Ch. 4, 10 ff., see esp. pp.110, 126n and maps pp.123, 357.

\(^2\) The war was said to have been a contributing factor; moreover, many villagers were employed as labourers on local European plantations and returned only at weekends; more important, the percentage of able-bodied males absent elsewhere as indentured labour had reached 31 and the officer accordingly recommended in 1948 that the area including Isoge, Isivita and Awala villages be closed to recruiting.
time the process of readjustment and restoration was still a major question demanding attention. A few years later the third misfortune occurred.

The eruption of Mt Lamington, which caused catastrophic loss of life and dispossessed many people of their land, left deep impressions on the minds of the survivors, particularly an acute sense of guilt which has been widely remarked upon. They felt that God had punished them for not helping the Allies enough during the war, and for not heeding the wishes of the mission and the administration. Some observers ascribed both the marked spirit of co-operation noticeable in evacuation camps and the avowed intentions of many to obey government directions in the future, to these negative feelings (Belshaw 1951:3-6; Keesing, 1951:5). By this time 'population trends indicate that with the present percentage of children, there are likely to be considerable increases in the future' (Plant 1951:4). The area was closed for recruiting but this did not solve the problem of the supply of labour for reconstruction because men were drawn back to their casual jobs on local rubber plantations and the mission asked each village to work a day a week rebuilding mission stations (Belshaw 1951:8).

After the war, compensation was paid for property of the villagers which had been damaged or destroyed, and following the eruption a programme of resettlement and rehabilitation was instituted.

For our investigations, Sivepe was chosen from the villages in the Saiho Census Division mainly because it had been one of the sample villages in the Survey of Indigenous Agriculture conducted by government departments of the Territory and of Australia on behalf of the Food and Agriculture Organization's World Survey of Subsistence Agriculture. Information from the survey has provided quantitative material which, though summary, is directly comparable with results of our short survey of subsistence cultivation. The F.A.O. survey's sample was chosen by statistical methods.

The interest which governed our own selection of a sample of manageable size from among Sivepe villagers - and comparable with

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1 Several thousand of the Orokaiva on the slopes of the volcano were killed by the clouds of hot dust emitted at about 200 m.p.h. and 200°C. Sivepe was just beyond the limits of the area destroyed. The villagers spent about a year's enforced absence in evacuation camps (see p.76), but some neighbouring people who survived were absent from their land for far longer periods.

2 Walters 1963:4.
that studied at Inonda - was the relationship between localized landholding patrilineal groups and their resources. The first group selected was that known as Jegase, which is intermediate in size among the 3 major groups in the village; in order to free our sample of possible bias in its age-structure and other physical characteristics, we also included the smallest group, the Timumu. This addition happened to bring the size of the sample to 50 persons.

The inclusion of the second discrete patrilineal group slightly broadened the base of our enquiries, but study of the Jegase provided the most significant data on the subject of land tenure. The sample was made up of 12 households, 8 of them Jegase and 4 Timumu; 10 of the 12 houses contained a nuclear family, 1 contained a widower living alone and the other a widower and 2 close kinsmen dependent on him (see Genealogy on p.52 for links between households). The third major group in the village is known as Seho. Jegase, Timumu and Seho are in fact the names of 3 non-exogamous dispersed patrilineal clans1 with branches also in other villages containing such fragments of several clans. These fragmented descent units are social categories (see Ch.3) whose members do not have 'ipso facto obligations of a specific kind'.

Our observations at Sivepe were supplemented by less systematic interviews with other villagers in what we will call 'the neighbourhood'. We find this term convenient, taking Sivepe as a point of reference, for a region which includes the villages whose members interact closely with Sivepe in the spheres of interest which we examined. It is not a social group even though there is only a small proportion of these villages outside the territory of the group named Awala.3

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1 Often referred to as clans by the people themselves, so that, with the possible exception of orepe (see Crocombe and Hogbin 1963:17), 'clan' seems to be the only current general term in local usage, which designates a distinct type of grouping based on descent.

2 See definition of 'clan' in Royal Anthropological Institute, 1960.

3 Its perimeter is about the same as the limits of the outermost of the local 'zones' within which a notable majority of Sivepe marriages have been concentrated over 3 genealogical generations (see p.48-9). There are suggestions of a tendency at Sivepe for intervillage visiting, associated generally with direct or secondary economic interests, to be confined to villages within such a spatial range, quite small compared with the wide network of similar links in the case of Inonda (P. Krinks and E. Waddell: personal communication).
Besides data collected on a standard series of topics investigated in the related series mentioned above, our report also includes discussion of the relationships between land tenure and land use on the one hand and residential and local organization on the other - questions which have been raised by anthropologists and administrators writing on this Orokaiva area.

The population displaced and resettled after the eruption were almost all mountain Orokaiva; one legacy of these events was the protracted complication of land tenure, which some of the people later found an obstruction when they were caught up in a general increase in enthusiasm for cash-cropping. This coincided with the formation of the Higaturu Council whose membership consisted in large part of the mountain Orokaiva.

Community development plans made after the eruption\(^1\) were never successfully launched, but the tenure situation in the council territory and specific areas of acute land-consciousness are the problems which patrol staff felt made it essential to regularize the tenure of cash crops at this time.

In 1951 Keesing expected that the marked trend towards larger settlements witnessed after the eruption would, as a matter of course, be reversed as circumstances permitted villagers to revert to their normal horticulture involving frequent rotation of cultivated areas; paradoxically, it was in view of the spreading enthusiasm of the Orokaiva for a more intensive, commercial agriculture about 5 years later, that some mission staff anticipated similar fragmentation of the same large villages.

Considerable topical interest is given to the question of the connections between settlement patterns, agricultural systems and title to land by current changes in the Orokaiva area which have implications of further radical adjustments in residential patterns. In a recent development a few local government councillors had initial success in advocating the consolidation of villages apparently as a means of establishing an economic base for the provision of local services or amenities. Members of Sivepe and other villages decided to rebuild together on land near Sasembata (E. Waddell: personal communication). Staff of the mission have for many years favoured this type of settlement among its Orokaiva parishioners.\(^2\) Although, with consistent effort, patrol staff of the Department of District Administration achieved the periodic amalgamation of pre-eruption villages, the department did not endorse the recent move and pointed out that councillors acted independently of any decision of the council or advice of its executive.

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Moreover, the Yega cocoa project\(^1\) has had a remarkable demonstration effect throughout the Orokaiva area; land development along similar lines as at Ombisusu is nearly everywhere under serious consideration and, whenever undertaken, may be assumed to involve some degree of resettlement on individual blocks. It is now government policy in the district to foster this spread of small-holder projects as a matter of high priority.\(^2\)

We have attempted some comparative discussion by introducing material on another area of closely settled populations, Chimbu.\(^3\) Firstly, this provides contrasts in patterns of residence and mobility, the intensity of subsistence cultivation and in the results of changes in land use. The Chimbu example is an appropriate test case regarding arguments for certain necessary connections between local systems of agriculture, the stability of settlement and the potential for schemes for land development among these Orokaiva. The settlement pattern eventually formed after the eruption affords data for instructive but not conclusive comparison with the pre-eruption situation. Secondly, a consideration of Chimbu land tenure and local organization throws some light on our Orokaiva data.

\(^1\) This is fully discussed by Dakeyne 1965.

\(^2\) In late 1964 the many individuals interested in these schemes showed considerable interest in the new Land Tenure (Conversion) Ordinance, 1964 (Edric Eupu: personal communication).

\(^3\) See p.72 ff.
The subsistence economy

a. Climate and soils

The neighbourhood has a warm, moist climate with an average annual rainfall of 160 inches (see Appendix C). Sitepe is between 1,250 and 1,300 ft above sea level and nights are often cool. According to the C.S.I.R.O. soils survey (1954:11), the village is on a soil association of the Awala land system which has an 8-12 inch very dark brown top soil. Chemical tests suggest that these loams are fertile, rich in nitrogen and phosphorus. The fine-textured subsoils range from 10 to 22 inches in depth. The terrain is characterized by a gentle radial slope on wide planar ridges between the larger steep-sided streams flowing from Mt Lamington (5,634 ft) into the Kumusi River. Numerous smaller creeks, together with these streams, form an effective fine-textured radial drainage system.

The local people recognize 5 types of soil based on differences of colour, texture and moisture.¹

1. Hohori - any red soil; 2 subtypes are distinguished: i. without sand. This is popular for cultivation; ii. sandy. Avoided if possible as taro does not grow well in it.
2. Gindiri - any soil which is stony or has a high sand fraction. It may be used for cultivation but in the dry season taro grown in it becomes stunted and the corms are small.
3. Mume - this soil is the predominant type in the area. It is the dark brown loam described in the C.S.I.R.O. report as covering almost the whole of the soil association. It is certainly the most widely used and together with Hohori, type i., it gives the best yields.
4. Pusu - any clay. Taro growth is stunted.
5. Pegara - swampy or waterlogged soils. These are sometimes used during a dry season.
The C.S.I.R.O. (1954:12) reported that a wide range of annual and perennial crops which will grow at altitudes up to approximately 1,500 ft and do not require a marked dry season could be grown successfully. The report commented that the whole land system is a very good agricultural area and that this is reflected in the relatively dense population.

a factor which under the present system of native agriculture will influence the extension of European agriculture. The potentialities of the area, however, far exceed the present land use, which means there is scope in this area for the successful application of extension work directed to the improvement of native agriculture and horticulture.

The natural vegetation of the area is a rainforest climax (Pometia pinnata-chisocheton sp. Alliance), of which very little remains. A belt of primary and secondary rainforest separates the settlements on the mountain slopes from their northern neighbours but the area south of this belt is mostly covered with more recent secondary growth in various stages of regeneration after cultivation. Isolated patches of 'kunai' grass occur (mainly Saccharum spontaneum, with some Ropbelia, Imperata spp.) but their area is insignificant by comparison with the grasslands found on the Orokaiva plains.

b. The cultivation cycle

Over a period of 8 years the average monthly rainfall has ranged from 9.6, 7.9 and 8.2 inches in June, July and August (when rain falls about 15 days per month) to 20.9, 16.8 and 17 inches in December, January and February (with 22 wet days per month). The coefficient of seasonal variation used by Brookfield and Brown (1963:20) indicates only slight seasonal variability in the area. An occasional brief drought is possible at any time, but with good soil, and no marked dry season, conditions for the growth of subsistence crops are usually favourable throughout the year and new gardens can be made as needed.

1 District Agricultural Officer: personal communication.
2 The coefficient of seasonal variation was 0.30. This measure is obtained by calculating from rainfall figures the standard deviation of monthly means from the mean of the monthly means and then dividing the standard deviation by the mean of the monthly means.
3 We found no effects in this area of the rainshadow zone referred to by Keesing, 1951:6.
There is, however, a slight seasonal variation in the rate of agricultural activity. There is no correlation between the various phases of gardening activity and the seasonal variations in weather conditions, such as is sometimes found among shifting cultivators, but the anticipated climate may determine the extent of new cultivation carried out at a particular time. More new gardens are made about the start of the season of heavier rains than at any other specific time of the year (cf. Williams, 1930:144).

Decisions as to the type of garden work to be undertaken in the immediate future take account of suitability of current weather conditions. For instance, most villagers took the opportunity offered by a long unseasonal dry spell during the last weeks of our survey, at the time which would normally have been the height of the wet season, to make extensive clearings for new gardens to ensure a more continuous supply of food.

The natural high fertility of the ash-agglomerate slopes of the volcano is maintained under the system of short-fallow shifting agriculture. Gardens are small, scattered and irregular in shape. Usually each area is worked with varying intensity for only 18 months. General seasonal conditions do not closely define this period. There is minimal rotation of crops; only single plantings of taro are made and this crop covers over 90 per cent of areas under cultivation.

Crops mature quickly but weed infestation and leaching result in a more rapid decline in yields under cropping than is found in highland areas. After one crop, pests and diseases become established and reduce the yields of any further immediate plantings. It is therefore essential to rely more on extending new clearings than on the intensive use of a few elaborately prepared garden areas.

The decision to cultivate a new area and the choice of a site rests with each household. Once a garden site is chosen, the secondary growth is cleared by the members of the household, using axes and bushknives. The undergrowth is cut first; trees are then felled at shoulder level and the stumps are left to provide support for yams and sugar. The branches are removed from the felled trees and the trunks are used later for fences, garden boundary marks, building materials or firewood. Undergrowth is left to dry for about a week and then burnt. Once this is done, edible pitpit (Saccharum edule) and bananas are planted at random over the cleared area. Sugar is planted near the tree stumps so that it may be tied up to prevent lodging. It is thus less susceptible to

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1 Conklin 1954; Lawrence 1955:5; Vicary 1960:182.
rode nt attack. A hardwood planting stick (ti) is used to loosen the soil, though occasionally shovels are used to make mounds for sweet potato runners and tubers, or for yams. Sugar cane and pitpit are planted either in clumps of suckers or in lengths or 3 nodes but bananas are propagated only from suckers.

Maize, cucurbits and tobacco are planted before or with the main crop of taro. They usually grow best near stumps or logs, perhaps because they benefit from extra potash and humus. Tobacco seeds are thrown near stumps and when seedlings are about 6 inches high they are transplanted throughout the garden. Numerous varieties of taro (Colocasia spp.), distinguished by their colour and stem and leaf shape, are propagated by suckers. The suckers are placed in holes 6-8 inches deep and spaced about 2 feet apart. A small amount of Xanthosoma taro is planted, usually on sloping ground, and not necessarily in the main gardens. Yams are planted in separate areas if planting material is plentiful. Otherwise they are planted at random through the garden. Two common varieties are recognized.

Sweet potato is grown only in small quantities as a supplementary diet to the taro. If it is planted among the taro, the planting is delayed until the taro is suckering. Small plots are often made in a taro garden after most of the taro has been extracted. Minor crops found in the gardens are cabbage, manioc, beans, tomatoes, ginger, shallots, pineapple and pawpaws. (Table 1.)

Gardens are usually weeded 3 times. Weed infestation becomes too heavy to handle at this stage, but crops are mature enough to compete successfully and shade from the weeds is claimed to benefit the taro.

Fencing is not as extensive or elaborate as in many Orokaiva areas, due to a scarcity of wild pigs. Gardens are usually made on sites at a distance from the village which is considered too far for domestic pigs to wander. Despite this precaution, 2 men had their gardens spoiled by village pigs just before our visit.

Fences are raised to a height of about 4 feet by piling logs horizontally on a broad base and securing them with perpendicular stakes. In most cases the fence is erected only on the garden border which is considered most accessible to pigs. This is often done after the area has been planted. The barrier may be extended later if another side is found to need protection.

A virtual absence of wild pigs is partly responsible for the tendency for the gardens to be scattered. In other parts of

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1 Cf. Vicary 1960:188.
Orokaiva territory where more effort is devoted to fence construction it is more common for the members of a village or a local patrilineal group to cultivate contiguous plots and to co-operate in the construction of one fence to protect several gardens. This reduces the total labour required for the task.

Table 1

Food plants per household*

<table>
<thead>
<tr>
<th>Crop</th>
<th>Average</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taro (Col)</td>
<td>0.97 acres</td>
<td>0.39 - 2.30 acres</td>
</tr>
<tr>
<td>Sweet potato</td>
<td>0.07 acres</td>
<td>0 - 0.20 acres</td>
</tr>
<tr>
<td>Corn</td>
<td>223 plants</td>
<td>0 - 442 plants</td>
</tr>
<tr>
<td>Bananas</td>
<td>71 trees</td>
<td>35 - 126 trees</td>
</tr>
<tr>
<td>Pitpit</td>
<td>88 clumps</td>
<td>0 - 400 clumps</td>
</tr>
<tr>
<td>Sugar</td>
<td>34 stools</td>
<td>11 - 54 stools</td>
</tr>
<tr>
<td>Yams</td>
<td>65 vines</td>
<td>0 - 136 vines</td>
</tr>
<tr>
<td>Taro (Xanthosoma)</td>
<td>28 plants</td>
<td>0 - 91 plants</td>
</tr>
<tr>
<td>Native cabbage</td>
<td>22 plants</td>
<td>0 - 100 plants</td>
</tr>
<tr>
<td>Pawpaw</td>
<td>17 trees</td>
<td>5 - 32 trees</td>
</tr>
<tr>
<td>Beans</td>
<td>17 plants</td>
<td>0 - 110 plants</td>
</tr>
<tr>
<td>Cucurbits</td>
<td>13 vines</td>
<td>9 - 28 vines</td>
</tr>
<tr>
<td>Shallots)</td>
<td>a few plants</td>
<td></td>
</tr>
<tr>
<td>Manioc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ginger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td>18 plants</td>
<td>0 - 59 plants</td>
</tr>
</tbody>
</table>

*12 households.

On the other hand, a total of 1 acre of taro planted in scattered plots involves more clearing than the same area planted in a continuous block of gardens. Several gardens in 1 block would have a smaller total perimeter adjoining the bush where there is usually a margin of cleared land which is never planted. The dispersal of garden sites facilitates natural reseeding of fallow land from the surrounding bush.¹

It is difficult to arrive at an average figure for the length of the cultivation - bush fallow cycle. One particular difficulty is the fact that the clearing of a plot is often done progressively. As one section of the garden plot is cleared by a household, it is planted and then adjoining sections are cleared and planted. In some but not all cases the successive areas may then be allocated to different members in the household, such as a woman - a married sister or a brother's wife - whose husband is absent. Since few vegetables can be stored for long, this method of clearing the

¹ Conklin 1957:145.
area over many months ensures a continuous supply of maturing food over a long period, but it means that one section may have been abandoned some time before the plot as a whole is finished. Therefore, there are limitations to estimates of the rotation period, made by determining the number of years which have elapsed since the previous clearing of the plot.

An average of 6 years had lapsed since the land under cultivation was said to have been last used. One area had not been cultivated for 15 years but in several cases the land had been fallow for only 4 years. Informants stated that this rotation period was long enough to maintain yields. By that time secondary growth (enda) of a reasonable height has become established on the overgrown garden (manene).

Many areas of enda had been unused for longer than this average fallow period. These included some parcels of land held by the patrilineal group which has the least land per capita among our sample (see p.58), but the blocks which have been fallow for at least 20 years belong to the groups with large landholdings. Some of these areas were considered less suitable either because the soil is of a slightly poorer type or because they are not a convenient distance from the village.

The short cultivation - bush fallow rotation does not occur repetitively even on a fixed number of selected parcels held by the members of the sample. Since the average period of bush fallow was deduced from the dates of the previous use of the total area at present under cultivation, it must be noted that 49 per cent of this was on land belonging to a group other than the planter's (see p.70 ff.). The shortest fallow period was no more common among the gardens of men with small landholdings than among gardens of those with large areas. Some gardeners from each group were exercising usufructuary rights as cognatic kinsmen of landholders of other patrilineal groups (see Table 5). Those who were cultivating a total of 6 acres of land of members of other clans generally claimed that permission to use this land was granted on a reciprocal basis.

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1 Williams' informants at Wasida said that land was replanted after 4 years' fallow (Williams, W.27).
2 The Orokaiva generally maintain that it is easier to clear areas where fairly large trees are standing than areas with no prominent timber. See also Newton (1960:113) who points out that within 5 years of the start of a tropical rainforest fallow 'the total quantity of nutrients immobilised is more than half the total immobilised in an eighteen-year-old forest fallow'.
About 2 acres of land held by the sample were being used for food gardens by members of other clans. If we assume that the parties periodically exercising reciprocal usufructuary rights to each others' land eventually use comparable areas, the number of acres of a patrilineal group's land cultivated over several years will be roughly equivalent to the total area which it has itself cultivated.

Chain and compass surveys were made of all current gardens cultivated by the sample. These gardens ranged from plots overgrown with weeds, but still yielding taro or sweet potato, to newly cleared areas. Measurements of the areas which were cleared during the last 2 weeks of our survey were made hurriedly and are less accurate than the other figures. The time spent clearing new areas in each of these 2 weeks was more than the total time spent on gardening recorded in any previous week and the figures below at least give a fair indication of the significant size of new clearings in relation to other categories of the area under cultivation shown in Table 2. The lack of rain at the time made it impossible to plant any of the new areas immediately.

<table>
<thead>
<tr>
<th></th>
<th>Area per head of population</th>
<th>Area per able-bodied person (over 16)</th>
<th>Area per household</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden currently producing</td>
<td>0.14</td>
<td>0.27</td>
<td>0.57</td>
<td>6.86</td>
</tr>
<tr>
<td>Garden planted</td>
<td>0.12</td>
<td>0.23</td>
<td>0.48</td>
<td>5.81</td>
</tr>
<tr>
<td>Garden cleared</td>
<td>0.10</td>
<td>0.20</td>
<td>0.43</td>
<td>5.17</td>
</tr>
<tr>
<td>Total area under cultivation</td>
<td>0.36</td>
<td>0.70</td>
<td>1.48</td>
<td>17.84</td>
</tr>
</tbody>
</table>

The 0.36 acres of current garden per head of population compares with the figure of 0.31 at Inonda (Crocombe and Hogbin 1963:10).

The proportion of currently-producing gardens seems to have been unusually small at the time of our survey. Sixty-one per cent of the garden area had been brought under cultivation in the past 5 months (2.2 acres per month), whereas the rest was all that was still producing after cultivation during the year before that. Some households had planted, harvested and abandoned some plots in the meantime. Most of the gardens which were being harvested
during our stay had been planted within the previous 6 months and those which had been planted longer were generally well over a year old and were entering the closing phases of production.

One householder whose older garden had been destroyed by pigs had first cleared his present gardens only 5 months before our survey. Some of the older current gardens measured were almost exhausted and would only just last until the taro in the householders' new gardens matured. The supply of food from the old gardens in these cases was supplemented mainly by the newly-sown corn which matures in about 3 months, by tree crops, yams and Xanthosoma taro from small scattered stands.

In deciding on the time to establish new gardens for their future subsistence needs the villagers seem to have taken into consideration the prevailing seasonal conditions and the prospects of heavier rains a few months before our survey so that we noted only a few gardens that were made in the year before our arrival and already producing.

By determining the area which has been cultivated by each household since it made the first clearings for its current gardens a monthly rate at which it established gardens was calculated. The total area gardened monthly by the 12 households together was found to be 1.53 acres. The sample therefore cultivates 18.36 acres per year or 0.36 acres per capita.1

For the above reasons we believe that we would have obtained more reliable figures had we been able to extend the length of the survey to cover fluctuations in the rate of cultivation and in the ratio of new to old gardens. The figure of 0.36 acres as the yearly per capita requirement for garden land may be unusually high: however, the Survey of Indigenous Agriculture at Sivepe estimated that between April 1961 and March 1962, 53.76 acres had been brought under cultivation by the 159 people in the village, or 0.34 acres per capita. The mission from the International Bank gives the average per capita requirement as about 0.3 acres under this class of land use in Papua and New Guinea.2

If an average 6 year fallow cycle is followed, the present population of the sample cultivating land at the rate of 18.36 acres per year require 110 acres to maintain their present

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1 The 4 households who had no current gardens older than 10 months had made these new gardens at the annual per capita rate of 0.51 acres compared with 0.29 for the rest of the sample who were still using earlier gardens.

standards of subsistence agriculture.\textsuperscript{1} Their own property totals 138 acres.

c. \textit{Hunting and fishing}

These pursuits add variety to the diet but provide comparatively little food. Most of the game surviving in the area is small and there are no large fish to be found in the mountain streams. Small marsupials such as the cuscus, bandicoot and, more rarely, the land wallaby, together with flying foxes and birds are the main sources of animal protein. Nets and hunting spears are generally used to catch these animals after they have been flushed out by the hunter's dog. Traps are seldom set for game but we were told this formerly was a more common technique. Snares for the smaller types of animal are often made by boys and one or two of the men. Two members of the sample owned licensed shotguns and these were very effectively and economically used. One of these men would place his services at the disposal of anyone who supplied cartridges for the gun; the other allowed a limited circle of people to use his gun. The guns were frequently used for hunting at night in the dry weather during our survey.

Neither of the two forms of concerted hunting common among other Orokaiva (the drive towards a pig net and grassburning, Williams 1930:45) is practised to any extent as there are few wild pigs and little grassland in the area.

Spears and fine-mesh nets are used in local streams to catch eels and the 7 types of small fish found. This task is shared by men and women usually when the water is low during a period of dry weather. They may search for fish with a net along the Sohu River wherever it passes through land held by a member of the village, but the small rock dams built by a man to form pools suitable for the use of the spear are made only where the river passes through his own land.

\textsuperscript{1} This requirement is 2.2 acres per capita. Barrau (1958:75) says that 2.5 to 5 acres per capita are sufficient for this type of agriculture in Melanesia, assuming the average area of garden is 0.25 acres and that the duration of bush fallow ranges from 10 to 20 years. In March 1951, 40 square miles of unrestricted land were considered suitable for resettling 4,500 of the survivors of the recent eruption (Plant 1951:4; Belshaw 1951:9). It was felt that these 5 acres per capita were enough only to meet the immediate requirements of traditional subsistence gardening for the next few years. (It was well-wooded and appeared 'most productive' and easily accessible by road.) Considerable population increases were anticipated.
The only local hunting land held by Sivepe people is that held by individuals as gardening land. A villager may hunt or fish on the land held by members of any group in the village and in fact often strays further afield than this 'village land' without attracting the attention of other groups. A man may, without consulting others, invite a kinsman from another village to hunt or join in a fish drive with him but no hunting parties involve the assembly or co-operation of larger groups. A man wishing to hunt on the land of one of his kinsmen in another village would consult his kinsman first.

d. Livestock

Apart from the game available to the hunter, there are only 2 sources of fresh meat available, the domestic pig and fowl. Six householders own a total of 15 fowls which were either bred or bought by their owner. They are valued mainly as an asset for times of feasting and only to a limited extent for egg production. They are allowed to run loose in the village during the day but are enclosed in shelters at night for protection against dogs.

Like fowls, pigs are fed by women mainly on scraps but they find much of their food by roaming in the bush and grazing in old gardens. They have complete freedom of movement within or outside the village during the day and in some instances only are they housed in pens during the night. As a result, they are a constant threat to gardens which are not thoroughly fenced; their movements are a frequent source of dispute and require the gardener to exercise care in siting his garden and sometimes to devote considerable time waiting there to attack a pig which has been frequenting the area.

Of the 24 pigs or piglets claimed by 7 of the 12 householders, 15 were bred by them and the rest received in gift exchanges; none was inherited. The only longstanding debts admitted or claimed by members of the sample were in terms of pigs.

There is little animal protein in the villagers' diet; some fresh meat and smoked meat or fish is purchased at Saiho market or from vendors travelling to the market - this source of meat seems to be quickly becoming reasonably accessible (E. Waddell: personal communication), but wild pigs - a very important source in many other Orokaiva areas - are rare and the area for hunting restricted. It would be feasible to take steps to modify any lack of animal protein by increasing stock numbers and improving their quality, but this would involve the introduction of new strains and, to maintain any increase or improvements, husbandry techniques would need to be refined.¹ At present parasites take

¹ About 50 Berkshire boars were distributed to Village Constables among the groups affected by the Mt Lamington eruption.
some toll on growth rates, size and length of life. Sows are quite prolific, however, and litters of 6 to 10 piglets which survive weaning are common. Boars are not numerous but it is claimed that the owner charges no fee for their services.

It is doubtful whether improved breeding and husbandry could in themselves induce a significant increase in the consumption of meat by pig owners. Pigs are too scarce in this area to meet the existing demand and priority is given to the use of pigs for distribution as pork at feasts or for gift exchanges. Very often neither a man nor his close kin have a suitable pig available when needed and in one such instance a price of £20 was set by the owner of a pig in another village.

Any person who aimed to establish a herd of significant numbers for commercial purposes would probably need to divorce himself as a participant from the network of exchanges which involve pigs.

e. Economic trees

Although the village is 23 miles from Gona on the coast and over 1,000 ft above sea level, most economic trees are abundant. The average household claimed 62 trees from which crops are gathered in season.¹ In order of numerical importance these were coconut, breadfruit, areca (betel) nut, sago, pandanus and tauga-nut (Cycas media) trees. Each household also owned one or two citrus, puga-nut (Terminalia okaria), mango or barkcloth trees. Sago does not grow wild in this area as it does on more low-lying land, but numerous small creeks provide sites suitable for planting. The 93 sago trees owned by Jegase and Timumu people are sufficient to meet the intermittent demand for sago for distribution at large gatherings or during the occasional period when there are limited amounts of the more common crops ready to be harvested from the village's gardens. Whenever a tree is harvested the owner is expected to share the sago widely with the other villagers whether they are his agnates or not.

Most villagers had lived in several villages, some of which are now abandoned, and had planted coconuts there which they still claim. They usually had similar numbers scattered over parcels of land where they had gardened in the past. Sixty-two per cent of all trees had been planted on the patrimonial land of the person claiming the trees. A man often plants trees while gardening on the land of affines or matrilateral kin and these trees are inherited by the planter's son.

¹ These claims were not thoroughly investigated but their accuracy was checked on a number of sample parcels where householders claimed a specific number of trees of various kinds.
It is customary for a man to plant a few trees on his own land for his sister's children for their later use. Women sometimes acquire trees of their own in this way but unless a woman is the sole surviving member of the agnatic group in which are vested the rights to the land carrying economic trees which she uses, she acquires no rights to specific trees from her father. After marriage she has only limited access to her patrikin's trees whose produce she previously shared. One householder stated that he would not expect his sister to ask for produce from his trees because her husband should have enough of his own. Another once lodged a formal complaint with the Department of District Administration staff against his sister's husband who had come from another village to harvest one of his trees without first seeking his permission.

These restrictions do not apply to a widow who has returned to the village as a dependent on her father's kin; nor do they apply to a married woman if the trees in question were planted by her husband while gardening on the land of her group.

Economic trees are ideally inherited patrilineally in the same way as the land of the planter (see p.38). Sometimes a man inherits trees from his father, usually in an area some distance from where he lives, without retaining proprietary rights to his father's land where the trees stand. The heir then needs to seek permission for access to the trees which he may have been allowed to retain by the deceased's co-resident kin who inherited the land. On the other hand, an individual may receive as a gift (from a distantly related kinsman) continuous rights to trees on land which he knows will be inherited by the donor's patrilineal descendants. In each of these ways rights to trees are transmitted from the planter to another person who does not receive the planter's land.

We noted one case where an individual seems to have reinforced a claim to inherit particular parcels of the land which he hoped he would share with another heir, by planting permanent trees there while gardening. The trees bore witness to the fact that these particular gardening areas had long been identified with him.

A man may periodically visit a distant area where he claims proprietary rights to land which he has not gardened for some time and harvest tree crops, or perhaps hunt there, and thereby assert his claim to the land, but this mechanism is doubtless inadequate unless a close kinsman permanently resident there is willing to represent his interests at other times.

On special festive occasions a localized patrilineal group has some call on the produce of the trees or even of garden produce of residents of other villages who are either closely related
clansmen or other kin of members of the group. But this takes the
form of a request to these kin to attend and to bring the food
with them and the group could never demand access to the resources
of others.

Table 3
Rights to economic trees

<table>
<thead>
<tr>
<th></th>
<th>No. of trees</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planted by rightholder or his father on their own land</td>
<td>463</td>
<td>62</td>
</tr>
<tr>
<td>Planted by rightholder (or others) on land of another clansman in Sivepe or elsewhere</td>
<td>55</td>
<td>7</td>
</tr>
<tr>
<td>Planted by rightholder on land of matrilateral kin</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>Planted by others on land of his matrilateral kin</td>
<td>31</td>
<td>4</td>
</tr>
<tr>
<td>Planted by rightholder on land of affines</td>
<td>43</td>
<td>6</td>
</tr>
<tr>
<td>Planted by rightholder (or others) on land of cognatic kin of another clan</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Planted within village sites</td>
<td>120</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>748</td>
<td>100</td>
</tr>
</tbody>
</table>

f. Equipment

The hardwood dibbling stick, ti, is still used universally for
planting taro. Other tubers are sometimes planted in mounds made
with a shovel but all of the 4 shovels used by members of the
sample had been found (at World War II Army dumps) or had been
given to the owner. Every householder owned at least 1 bushknife
for use in clearing, weeding and harvesting; all had 1 axe or
sometimes 2, and at least 1 grass knife. A few of these tools
had been received as gifts. Two householders had picks and 2
others had both hammer and saw, while 2 men had only a saw.

Total current replacement value of all these tools, including
those found or received as gifts, is £50.6.0d.

The 2 shotguns owned by 2 men would cost roughly £30 each
(apart from licences).

g. Labour

We conducted a pilot survey of the patterns of work among
members of our sample for 6 weeks.\(^1\) Approximate times were

\(^1\) From 10.12.62 to 20.1.63 a similar survey was carried out at
Inonda (Crocombe and Hogbin 1963:61) and fuller studies by P. Krinks
and E. Waddell are now being prepared for publication.
recorded every afternoon, when each able-bodied adult was asked how he had distributed his working hours. Of the population of 50, 25 were able-bodied persons over the age of 16.¹ These fall into 2 distinct categories according to age. Seven householders are between the ages of 45 and 65 years, and the other 5 between 25 and 35 years of age. There were no younger men or boys over 15 years in the village. Five of the women were aged 45 or more, 5 were between 25 and 30, and 3 younger women whose husbands were absent in employment, were staying with their kin in the village. One Jegase woman was a total cripple.

Nine of the 24 children attend school and 11 are 5 years of age or under. The rest, 2 boys and 2 girls in the 10-15 age group gave only intermittent assistance in garden work. The boys would often go hunting but were not engaged in productive work as regularly as their elders. The girls had a relatively heavy schedule of domestic chores.

The household containing a nuclear family is the basic unit of production and consumption. Members of an expanded family usually make their gardens on adjacent plots and the men usually co-operate in the heavier clearing work. Its members usually travel together to their gardens, but each household then cultivates its garden alone. Apart from the harvesting, which is the task of women, the division of labour between sexes in gardening activities seems to be flexible in each household. Women assist in clearing undergrowth for new gardens and men join them in planting and weeding. It will be seen from Table 4 that men spent nearly as much time as the women in subsistence gardening during our survey.

House-building is carried out generally by the householder and any adult sons, with only occasional assistance from a neighbour or another kinsman. Wives sometimes help to prepare materials such as sago thatch for the roof.

Larger work-groups than these are seldom mobilized for subsistence activities.² One or 2 men can readily clear enough secondary growth for their own needs and little co-operation is

¹ Included among these were 1 man whose activity was restricted by tuberculosis, and another very old man. However, both maintained their own gardens.
² E. Waddell (personal communication) suggests that assistance with house-building is not 'occasional' but 'considerable' especially with making roofs; he also points out that large work-groups are assembled for harvesting yams (which do not need to be left in the ground for storage). Neither type of co-operation was in evidence during our short survey of work patterns.
required to build the short pig fence protecting the average garden. A house is replaced by intermittent work on construction over a period of several weeks.

Co-operation with households outside the expanded family is usually on the basis of assistance given for a day or two by an individual to fulfil some kinship obligation or to help a neighbour who is sick. Any assistance a man receives usually comes from individual kin rather than a working party composed of his agnates. This may be because Sivepe is one example of the type of Melanesian societies where clans or their segments 'are small and communities composed of several, permitting local endogamy' and co-operation with local kin and affines dilutes the strength of the unilineal group (Brown 1962:68).

The work patterns we recorded are summarized in Table 4. The figure for the time taken up by sickness (including caring for the sick) was affected by the facts that during the survey 2 householders suffered from lengthy bouts of malaria (1 was hospitalized) and that some women needed to attend to their sick children; the figure for travel was affected by the absence for several days of 1 householder and his wife who walked to Popondetta where they had business at the District Office.

The extreme weather conditions experienced during our survey - 26.3 inches of rain in 1 month with 25 wet days followed by a long period without rain - restricted both the range of subsistence activities possible and to some extent the time available for them. The amount of time devoted to subsistence and cash crop gardening was appreciably lower during each of 3 weeks which were marked by the celebration of non-traditional festivals. Several villagers were among a group of 100 people baptized as Anglicans at Sasembata Mission.

During the week this occurred the women of the sample devoted more time to preparing for and attending the ritual than to economic activities. The men also spent more time than usual in the village, several of them building or repairing houses. Most of the men spent several hours watching the baptism itself. Although the baptism differed from the life-crisis traditionally celebrated by feasts, a number of small independent gatherings to mark the transition were held afterwards in the village by the close kin of those baptized.

Religious observances were accorded a little more time during the week of Christmas than in normal weeks. There were no festivities within the village to mark the occasion and church attendance was the only organized Christmas celebration except for ceremonial at Saiho which a few Sivepe people attended on Boxing Day. Several people were disabled by attacks of malaria at the time but few of the others considered these 2 days as
regular working days. One man on vacation from regular paid employment worked both days with his wife in his subsistence garden but most relaxed in the village or visited kinsmen.

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
<th>Both sexes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gardening</td>
<td>13.50</td>
<td>15.19</td>
<td>14.35</td>
</tr>
<tr>
<td>Hunting, fishing</td>
<td>1.29</td>
<td>1.19</td>
<td>1.24</td>
</tr>
<tr>
<td>Building</td>
<td>2.73</td>
<td>0.39</td>
<td>1.56</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17.53</td>
<td>16.77</td>
<td>17.15</td>
</tr>
<tr>
<td><strong>Income-earning activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid work</td>
<td>2.60</td>
<td>0.31</td>
<td>1.30</td>
</tr>
<tr>
<td>Cash crops</td>
<td>0.79</td>
<td>0.31</td>
<td>0.55</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.39</td>
<td>0.31</td>
<td>1.85</td>
</tr>
<tr>
<td><strong>Non-economic activities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sick</td>
<td>4.94</td>
<td>3.81</td>
<td>4.38</td>
</tr>
<tr>
<td>Travel</td>
<td>4.14</td>
<td>2.51</td>
<td>3.33</td>
</tr>
<tr>
<td>Religion</td>
<td>0.96</td>
<td>3.97</td>
<td>2.46</td>
</tr>
<tr>
<td>Council</td>
<td>0.41</td>
<td>1.44</td>
<td>0.92</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>10.45</td>
<td>11.72</td>
<td>11.09</td>
</tr>
</tbody>
</table>

*Excluding domestic activities.

**For comparative purposes, we have recorded days taken up by non-productive activities, such as travel (including visiting and absence for reasons of other social obligations) as 7 hours, the standard used by Crocombe and Hogbin at Inonda (1963:62).

A tendency for men to regard the season as a time for renewing social contacts became more apparent in the week of the New Year. Although New Year's day was not specifically observed, the men who were well enough spent at least 1 day of the week visiting kin in other villages. Women too spent more time than usual away from the village but by New Year they were also resuming the routine of subsistence gardening. A general increase in movement between villages in the area appears to be usual at this time of the year. Several villagers used to visit Kokoda at the New Year to trade traditional valuables with members of other tribes.
Chapter 3

Land tenure and social structure

a. The tribe and clan as territorial or political units

This section outlines the range of wider common territorial interests and concerted political action among traditional groupings. Clans are the largest units in which membership is determined by patrilineal filiation as distinct from the local allegiance underlying membership of the tribe, and of the 'district', village, etc., into which the tribe may be divided.

The tribe is the largest unit which has a common territory (Williams 1930:156-7). This is usually isolated from neighbouring tribal territories by a belt of uninhabited country and its occupants would speak of it as 'one ground', pusu tahavo. The territories of groups of various orders of inclusiveness within the tribe are also described in this way (see Williams 0.364; 1930:157).

Members of a group of any of these levels might consider themselves as toho, 'countrymen' (see Williams 1930:166; 0.100, 364). In another context a group would consider others in the same tribe as kitoho (outsiders, aliens). All members of the tribe shared common enmities so that at times they would regard themselves as toho whereas neighbouring tribes were always considered kitoho.¹

There were customary restrictions upon feuding within the tribe. As Williams (1930:309 ff.) points out, this political unit is the largest group with its own intragroup morality, in this case sharply distinguished from the standard forms of hostility between tribes. Aggression against members of another tribe took the form of organized, often cannibalistic raids (isoro).

¹ Williams (1930:160) mentions exceptions where 'friendship or affinity between certain tribes allowed the use of the former word' (toho), but 'tribes...normally stand in the mutual relation of Kitohu' (sic) (ibid: 170; see also 0.100, 364).
There were ordinarily no persons who could command the allegiance of the tribe as a whole, nor was there any status with authority to effect the settlement of disputes between different subgroups or their individual members. Sometimes persistent intratribal conflicts led to short-term migration or to a splinter-group's secession from the tribe. However, these disturbances were very minor in comparison with the 'flight, dispersal and migration' in general resulting from incessant intertribal\(^1\) feuds (see p.35).

Kinship and local affiliation together were the basic principles by which subgroups of the raiding party seem to have been drawn up during attack and on which leaders\(^2\) within the party based their rights to command specific combatants.

Retaliation was as important a motive for isoro as was individual and group prestige. It was 'rare if not impossible' for tribes to settle hostilities amicably by compensation, exchange of hostages or other means (Williams 1930:166, 170 ff., 311 ff.).

Conquering groups operating from within their established territorial frontiers seem seldom to have set out with the express aim of acquiring new land for settlement or even to have used the vacated land when they forced their enemies to withdraw.\(^3\) Nevertheless, the Aiga people (mostly the Timbariundi, i.e., wanderers), for instance, are known to have migrated to their present territory by expelling another tribe and settling on their land.

The high value of the land on the volcanic slopes occupied by the people called 'Periho' and 'Wasida' (by Plant and Williams, \(\ldots\))

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1 'Intertribal', 'interclan', etc., are terms which we apply to relationships between any - i.e., not necessarily all - representatives of the units in question.

2 In the course of a raid, some of these leaders would assume the role of isoro ambo jigari, a man who should rally the slowest of his company in attack and protect the stragglers during withdrawal; the other class of leader was known as isoro kiti jigari, that is, a warrior who ordinarily directs raiding groups from in front and takes the initiative in tactical decisions. Kiti jigari is sometimes a term for leaders in ordinary village activities (kiti, the first, foremost; jigari, one who directs and controls an enterprise); cf. pp.51-3. See also Williams (W.23) who was told that in pre-contact times a renowned member of Sarahu clan would lead from behind in attacks by men of the Jegasi-Sarahu villages (of the 'Wasida' tribe).

3 As the Sangara did to the Divinikovari, for instance (Williams 0.12).
see p.6) and by the Sangara would have been common knowledge but the neighbouring tribes on the plains were well endowed with land. Land shortage and territorial ambitions were seldom likely to have been sufficient to induce warriors to conquer new lands from traditional enemies.1

Williams (1930:151) says that the Hunjovarehu (including the people of Divinikovari) and the 'Wasida' people to their south are 2 subdivisions of 1 tribe but in other contexts (1930:166) he mentions that these 2 groups carried out organized raids on each other's territory; these were frequent and were characteristic only of intertribal feuds. He refers also to the 'Wasida' as traditional enemies of the Divinikovari 'tribe' (0.9). Monckton too (Territory of Papua 1904-5:36) had reported that the 'Wasida' used frequently to raid 'the low-lying villages of the Kumusi' including the Nimankwari (or Divinikovari) 'tribe'; indeed, the ancestors of some of the men at Sivepe were killed while fighting the Divinikovari, Togahau and Asigi people to the north. 'The people known as Hunjovarehu' and 'the people of the Periho group', according to Plant, should not be regarded as members of the same tribe (1951: Appendix 4). Informants said that their ancestors were not involved in the isoro which the Wasida villagers fought with the Orokaiva of Sairope - and at times with those at Baropi (Wairope) - and with the people of the Managalas Mountains to the south (see Reay 1953:118; Williams W.23).

Our reason for arguing that all the mountain Orokaiva - the Sangara as well as the Periho (i.e., Wasida) - constituted 1 tribe, is that the basic criterion for identifying a tribe as a distinct unit is its members' joint political activity, as Williams says (1925:406; 1930:156) - the 'almost perpetual state of war with its neighbours'.

In feuds with neighbouring Orokaiva of tribes to the north, members of the Awala District had regular alliances with people as distant as Koropata to the west and the Sangara to the east. However, on no occasion known to us did the mountain Orokaiva as a whole combine in defence or attack en masse. It is even unlikely that the Periho 'welded themselves into a solid group', which Plant (1951:3) claims 'was based on political necessity', defended a recognized common boundary and combined to conduct isoro as a unit.2 At the time of pacification they alone must

1 This is true of almost all New Guinea societies, whatever the extent of their political organization: exceptions include Chimbu and the Mae Enga (see Brown and Brookfield 1959:42).

2 Plant's inclusion of the Wairopi and Sairopi districts in the tribe (see p.6) is hard to reconcile with statements by Williams (W.23) and by Reay (1953:118).
have numbered several thousand at least (nor did they have a 'distinct dialect and a uniformity of custom' that might indicate that they by themselves constituted a tribe).

Every Orokaiva person is recruited by birth to the clan of his father. All members of this descent unit claim but cannot trace\(^1\) common patrilineal descent from a usually eponymous ancestor; they do not always share the same plant emblem (erahu)\(^2\) commonly held by patrilineal groups. A large number of clans are included among the mountain Orokaiva; clan membership does not often overlap with tribal membership (though see Williams 1928:406; 1930:154). It is very rare for the clan to act as a political unit, whatever its functions in the past. Williams (1930:102-8) has in mind a different kind of unit (a small, usually localized group 'united by feelings of actual kinship', scarcely more distant than nuclear family relationships) when he says the clan was 'co-operative... in respect to ceremonies and feasts, and more importantly of fighting'.

There are several clans represented in the great majority of the present villages and fragments of the same clans - what we call clan branches\(^3\) - will be found scattered among similar composite villages, often a considerable distance away.

Clans are not linked to form a wider descent group. Some members of 2 or more distinct named clans, whose ancestors were all at one time known by the one clan name, sometimes profess closer ties to one another for this reason. Jegase clan, for instance, is said to have formerly included groups which have become independent clans.

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\(^1\) This disagrees with Williams' description (1930:108) which shows no clear distinction between the clan and lineage (see Royal Anthropological Institute 1960:88-90).

\(^2\) Data from Awala and Wasida villages (see Williams 0.83; and Appendix D) differs from the information from Inonda (Crocombe and Hogbin 1963:16).

\(^3\) Note that Williams (1925:410 and 420) uses either the term 'local clan branch' or 'subclan' to denote 'an incipient clan' which has moved away from the parent group but retains either the original clan name while acquiring a new plant emblem or the original plant emblem while assuming a new clan name. Elsewhere (1928:125) he describes how some clans occupy several villages or parts of villages. Some 'branches' or 'sections' may have adopted a distinctive name or taken possession of the subdivision of former clan land they occupy, while others may not yet have taken either step (ibid.).
Although it is said that members of these clans were allies in the past and today their local branches in the one neighbourhood intermarry, their relationship to one another in regard to land is not directly determined by the recognition of the historical tie between them.\(^1\) Plant (1951: Appendix 2) suggests that another informal link exists between clans whose founders are said to have been allies or associates.

The typical dispersed clan among the mountain Orokaiva now appears to be only a social category. Its members still acknowledge common descent from a single ancestor and have inherited the same name, but this gives them no special access to each others' land. Men have only a superficial acquaintance with the land of other branches of their clan. Nor does the clan seem to function as a group in any other sphere of activity.\(^2\)

In the past the scattering of clan fragments in distant villages probably served an important function in facilitating travel, but clanship has been almost wholly replaced in this capacity because a traveller now can usually receive hospitality from various kinsmen, often closely related, who are widely dispersed, for one or another reason associated with social and economic change in the area.

We have no details concerning either the present number and size of clans among the mountain Orokaiva or the extent of their fragmentation. There is no doubt that the growth of more nucleated villages since the 1951 eruption of Mt Lamington (see Secs b. and e. of this chapter) is a significant uncontrolled variable in any inference from a situation preceding the eruption. Nevertheless, we think that a reasonable indication of the present pattern of

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\(^1\) Plant (1951:3 and Appendix 2), however, is in complete agreement with Williams (1928:126 ff.) and says that 'ownership of land is vested in the clan'; although this ownership is nominal and in practice each branch of the clan regards the land it uses as its own, people from one village agree that their clansmen elsewhere have 'every right to come and settle at their village and that land would be made available to them' and similar rights would be conceded by members of a 'parent clan' to one of its branches which has assumed a new clan name.

\(^2\) Further information now being collected at Sivepe by the New Guinea Research Unit will show whether or not this statement holds for economic activities in general; cf. these clans with the Star Mountains patriclan (J. Powner in Watson, ed., 1964:136) which can 'best be characterized as a name group, since the clan name passes from father to son', and 'is neither exogamous nor corporate with respect to political, social, religious or legal matters'.
clan distribution can be obtained from the following summary of diverse information from the mountain Orokaiva and the Aiga.

The people grouped under the names Isivita 1 and 2 and Sasembata 1 and 2 numbered more than 1,600 in 1948 and occupied 44 villages. By the time of the eruption in 1951 the number of villages had been reduced to 27 (see Plant 1951: Appendix 3) and 40 clans had branches in one or more of them - there were at least 17 clan branches in villages other than these, representing 6 of the 40 clans. Eleven of the Isivita and Sasembata villages consisted only of members of 1 clan, although only 3 of these villages constituted a whole clan.

Williams (1928:124; 1930:101) suggests that a periodic increase in the 'multiplicity of small clans', caused by subdivision, is only 'in part neutralized by the dying out of older clans'. He says that there is a marked consistency in clan organization throughout the Orokaiva area (1925:406) and in 1923 the generalization that 'local and lineal groups seem to be largely coincident' was true of the Jegasi-Sarahu, i.e., the Wasida group of villages (W.10, 31). In this context he adds that this pattern was altered somewhat by the dispersal caused by a special factor: an attack by the first government patrol on Wasida and neighbouring villages. He does not record the relevant clan branches present in local groups other than the 15 Jegasi-Sarahu villages of the tribe, but 5 of the 7 clans listed are seen to be represented in more than one village. However, only 2 of the 15 villages contained 2 clan branches. The average village consisted of 6 houses (normally nuclear families) and a single-boys' house (W.1), perhaps 25 people in all.

Data collected in 1924 among the Aiga show that there were 37 clans among the 50 villages of the tribe, with an average of about 35 members, or perhaps 'a dozen families', in each clan (Williams 1930:7, 101; 1925:418). Williams says that the 'normal', 'typical' or 'original' residential group was the 'clan-village' - clan and village were coextensive (1925:407; 1928:124; 1930:103, 310; and 107, 131) - but notes that in the larger villages there were 'often two clans or more' (1925:407). In fact, 12 of the 24 clans listed in 36 of the Aiga villages had 2 or more branches there (0.19, 20). Yet Williams might then have argued that in such instances fission would soon be completed and 'the normal conditions restored, viz. the clan locally unified and in

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1 Cf. Reay 1953:110: Williams' information on the Aiga, Binandele and Tain Daware tribes reveals 'a social organization practically identical with that of the Wasida people'; see also Williams 1930:7.
possession of its own tracts of land' (1928:125). In view of the uncertainties regarding attributes which, we have noted, Williams associates with the 'clan', we can not readily say whether our discussion in the following sections confirms or contradicts this statement on land tenure.

Fighting within the tribe (emboge), though frequent,1 was governed by restrictive conventions absent from the conduct of deliberate raids (isoro). Organized aggression was rare and the deliberate destruction and homicide characteristic of the tribal raid were absent from the skirmishes which arose periodically in the course of ordinary interclan relationships. Disagreement over rights to land in the neighbourhood was one of a number of causes of interclan hostilities (see Williams 1930:107, 163). But we found no evidence from the area discussed in this report to indicate that land disputes between members of different clans involved the mobilization of their descent groups. Informants firmly denied that people would resort to attacking neighbours from another clan in order to acquire land.

In presenting a picture of continuous feuding between local kin groups within the tribe, Keesing (1951:6) quotes Williams out of context: Williams (1930:311; and 160-7) was referring to the ineffectiveness of intertribal truces not to instability of peaceful relationships between these smaller groups when he says that no village lived in permanent security for fear of raids from its neighbours. The tribe lacked close political cohesion but relations between local groups within it do not seem to have been as precarious as Keesing describes. As Plant (1951: Appendix 3) indicates, a network of affiliations between descent groups in widely scattered areas formerly ensured generally peaceful relations within the tribe.

The frequency with which fragments of one clan are found scattered in 3 or more districts of the tribe suggests that here Langness' discussion of the Highlands (Watson, ed. 1964:174) may be relevant when he points to the probability of a causal connection between continuous violent warfare and the weakly patrilineal structure of groups,2 in view of the fact that most warring groups needed continually to replace losses in numerical strength by recruiting outsiders; they would repeatedly scatter, regroup, take refuge or attach themselves permanently to stronger groups for

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1 In fact, Williams (W.37) records that members of Jegase clan once fought some of the Sarahu, even though the names of the 2 clans were linked as the name of the political unit which he defined (see p.34).

2 See sections c-f of this chapter.
safety. Plant for instance (1951:3) notes that the Isivita villages, strategically situated on a ridge, would occasionally give refuge to fellow tribesmen though not every district would usually have recourse to join the Isivita.

Williams ascribes the formation of 'somewhat loose' and temporary 'confederacies of clans', which conducted raids upon the tribe's kitohi, to a local spirit. But it is not clear whether by this he means the identification of members of a tribe with one territory or the unity of the 'locality group' which usually takes in a number of 'clan-village units' (see p.34) and which he describes as a more restricted 'sympathy-group' than the tribe (1930:107, 157, 163, 309-12). When he states (1925:407) that 'over and above clan patriarchs there are recognised leaders of small clan confederacies and even - in war-time - of tribes', he seems to equate the tribe with the district among the mountain Orokaiva (in particular Wasida and Isivita; see W.23, 124).¹

However, neither the district nor any other local grouping among the mountain Orokaiva was an independent political unit. The territory of this tribe was not so compact as to call for (or even to enable) all its constituent local groups to give continuous mutual support in protecting the integrity of the area they occupied. Nevertheless members of discrete local groups continually formed ad hoc alliances across district boundaries. It is clear that the regular chains of alliances encompassed a wider area than usually described as the tribe (whether Jegasi-Sarahu, Wasida or Periho).

The usual stratagem of the isoro was the surprise attack on 1 or 2 selected villages. In these circumstances the victims were able to summon only immediate neighbours to help ward off the attackers and proximity was at least one of the common principles by which specific villages combined in retaliatory raids.

An indication that within this tribe the named local groups of villages were territorially distinct units is Belshaw's statement that the population was divided into 'hamlet groups' like Awala 2,

¹ There is some doubt whether the evidence in these cases shows that there was even a military leadership in the district (and war is said to have been almost perpetual). The title of the former leader of Isivita (who had not been replaced) is given as embo javoari and the literal meaning is given (1930:104) as 'the man who gives the name' (cf. embo javo vahai, Crocombe and Hogbin 1963:17), i.e., the deceased eponymous ancestor of one clan. The last renowned war-leader among the Wasida may have been the embo peni (javo), lit. man-big (-name), of a group no larger than a village or clan (see 1925:417; W.23).
each separated geographically from its neighbours. There is also Williams' point (W.28) that in 1923 there was unclaimed land adjoining the 'hamlets' in the unit named Wasida (i.e., Jegasi-Sarahu). Like most other districts this consisted of two 'hamlet groups'. Norton (1962:6) says that sometimes villages, which 'are known to have been quite large' and stockaded (cf. Williams 1930:67, 164-6), were separated by tracts of unclaimed virgin land until the time of the suppression of feuding.

This combination for better defence may have been characteristic of tribes throughout the Orokaiva area. We believe, however, that the subdividing of the tribe into discrete named groups of named villages (either district or 'hamlet group') would be unique to the mountain Orokaiva in the culture area; we do not have enough evidence to show if this feature is related to the earlier clustering for safety, and to the greater population density in this tribe.

The emergence of tribal subdivisions at this level, however limited or occasional their independence, seems consistent with the uncertainties encountered by observers in seeking to determine the limits, the local name and the distinctive cultural and linguistic characteristics of the inclusive political unit.

At this point we shall identify the local patrilineal groups to be mentioned in the following résumé of the history of local settlement and then make a preliminary comment on landholding by individuals.

The members of Jegase clan in Sivepe are divided among 4 named subgroups, each claiming to trace its origins to either of 2 contiguous villages occupied by all the ancestors of the Jegase in the neighbourhood. We shall call these subgroups lineages; they are Bebehupa, Sesewopa, Berekipa and Arehu. A fifth lineage called Hambai or Hambai'embo has died out only in the present generation, yet all but the key members of the group and a little

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1 Seldom does the territory of a 'district' at present clearly appear distinct from others, and that of a 'hamlet group' even more rarely.

2 Either 'parish' or 'subtribe' could be considered as a term for such a unit within the tribe. But rather than add to the confusion of terms used in descriptions of local organization we retain the terms which we have already adopted.

3 The suffix -pa (or -ja, female) should strictly be used in addressing or referring to an individual member, but it now seems to be common local usage to refer to a group itself in this way, and we shall follow this usage.
general information is already beyond the immediate recall of the surviving Jegase men.

The Sivepe people who belong to Timumu, the second clan represented in our sample, are members of 2 lineages, Pekuma and Hajejopa. Other than clanship the two can reckon no link originating in the 'district' from which both emigrated independently to the neighbourhood of Sivepe; their closely parallel histories of migration, subsequent residence and marriage account for the present firm connection between them.

The largest exogamous groups are lineages, but this rule readily lapses when a lineage achieves a much wider span than average, especially if it becomes scattered for any length of time or in more than one 'hamlet group'.

All land around Sivepe and neighbouring villages is divided into named areas which we will call 'blocks'. Each is usually a locality deriving its name from a prominent local natural feature - often a tree or a grove of trees, hence Korinasusu or Korinaturu. For any subdivisions of a block we use the term 'section' and we refer to either 'blocks' or 'sections' as 'parcels' of land.¹ No correlation is implied between the type of a parcel and the type of rights held to it.

All land constituting territory of the Jegase, Timumu or others in the neighbourhood is divided into parcels which are the holdings either of individuals or of full brothers. A man's rights and other property are ideally inherited patrilineally. In some circumstances a definitive division of the father's land may be made among his sons before his death. This usually takes place if the sons already have their own households, if the father is no longer very active in village life or if the younger men are only half-brothers. We know of no instances of a daughter receiving a particular share at the time of such an allocation, but we refer elsewhere to circumstances where women hold land (see Appendix E, p.111). In other cases brothers may jointly hold all the land inherited from their father. This seems to apply particularly to instances where a younger brother is unmarried or has taken temporary employment away from the village

¹ People commonly use the name of a block to refer to any parcel of land, for instance in listing their landholdings. They draw attention to any specific distribution of sections of 1 block among different people only when the context requires them to. On Map 2, where 1 man holds adjacent blocks or 2 adjoining sections on 2 adjacent blocks, the boundary between them is not shown. Only boundaries between different landholders are indicated.
before establishing a household. The older brother should in time provide the other with an equitable share of the land.

There is no system of primogeniture in theory or practice.¹ In one case, however, a childless man, who was adopted into the local branch of Jegase clan and has also married a Jegase woman, either has bequeathed his land to the leader of his wife's lineage who allocated it to his second son, or he has himself bequeathed it specifically to the boy (who was given his wife's deceased brother's name). Most of the patrimonial land and some land held by the woman are to be inherited by the elder son.

Turning to the extent of landholding, the 12 households studied hold 138 acres near Sivepe or 2.7 acres per head, all of it arable with the exception of little more than 1 or 2 per cent.² Some members claim to retain land in relatively distant areas where they or their forefathers originally lived. In cases where the Sivepe people had not exercised their rights to cultivate these land claims, no estimate of their size was made.

b. The history of local settlement

The territory of the mountain Orokaiva was opened up when a new road from Buna to the Yodda Valley goldfields near Kokoda was built in 1904. In this part of Orokaiva country individual tribes were not as isolated as elsewhere. Although the various tribes were initially described as being constantly warring, and likely to attack government parties,³ peace was secure within 4 years. Intertribal feuds were effectively suppressed, except for an occasional raid prompted by the docility of neighbouring tribes under the novel conditions brought about by the arrival of the Europeans. Many tribes, including the 'Wasida', were able to settle on their outlying lands which formerly they had not occupied for fear of raids.

Many of the people worked on the construction of the road, and later as carriers; by 1909 some had signed on for labour elsewhere

¹ In this way, the mountain Orokaiva differ from at least one other Orokaiva tribe, the Yega at Beporo (R. Dakeyne: personal communication).
² This density is the equivalent of 237 persons per square mile (cf. 300-500 per square mile for Southern Chimbu, Brown and Brookfield 1959:74). The Saiho Census Division, on the other hand, has only about 75 persons per square mile; however, as Map 2 indicates, it includes extensive areas of unoccupied and generally unused rainforest surrounding the concentration of populations with higher densities and separating them from their former enemies. Some of the land of the thousands of Kombu Sangara killed in 1951 also appears to fall inside the Saiho boundaries.
³ See Territory of Papua 1903-4:39; ibid. 1904-5:14, 36.


AWALA PLANTATION

KAKITA

ANDAKAHAMBO

AWALA

TIMUMU LAND

JEGASE LAND

SEHO LAND

LAND OF USOHU (BINDUTA) MEN

LAND OF BE'OHUAFJU (AWALA) MEN

LAND OF JEGASE MEN IN VILLAGES OTHER THAN SIVEPE

SIVEPE EXISTING VILLAGE

AURIJA ABANDONED VILLAGE

AREA CULTIVATED BY MEMBERS OF SAMPLE COFFEE GARDEN

RUBBER STAND

BOUNDARY BETWEEN LINEAGES

BOUNDARY BETWEEN HOUSEHOLDS WITHIN LINEAGES

0 100 200 YARDS

MAP 2

KISISITA

PUSANAMBO

MANIMKAMBARI

EJEU

DLO SIVEPE PAMBA

SIMBI HATA FOTOGATA

KOROGOMBA

KORINASUSSU

GOGOSSUSSU

ASIMA

NAHITI

BINDUTA

AURIJA
in Papua (Territory of Papua 1908-9:19). In 1904, 4 village constables had been appointed from the peoples along the new road. By 1908 members of the various tribes were peaceably trading with the carriers along the road (Territory of Papua 1907-8:22).

In about 50 years preceding the establishment of their present village the groups now represented in Sivepe had between them been involved in shifts of residence between a series of 14 village sites within an area of about 2 square miles adjoining the Sohu River. Informants claimed that they or their ancestors moved from 11 of these under instructions from government officers to amalgamate into larger units. During this period members of several other descent groups have either accompanied them or established independent villages and worked land of their own in the same area. Intermarriage among contemporary villages there was common and individuals frequently moved from one to join kin in another.

The 4 Jegase lineages can trace the history of their groups back to a point of common origin in the first decade of the century in the village of Simbehata and its 'satellite' Totogata, both on what is now Jegase land hardly a mile from the present site of Sivepe.1

(i) Migration 1900-50. The Bebehupa moved from Simbehata to Korogombata2 and were joined by some members of Usohu living nearby.3 Except for 3 families which moved out to form Kisisita, Aurija and Andakashambo villages, they remained there until about 1937 when they were asked by the Administration to reunite with these 3 to establish Korinasusu. One of the 2 major pre-war tracks from the coast to Kokoda lay nearby and when Japanese and Australian troops moved along this in 1942 the people abandoned the village and moved into isolated garden huts. Most villagers returned to Korinasusu after the war but 1 group founded Nahihita nearby.

In 1950 the Administration instructed the Bebehupa of Korinasusu and Nahihita to join the Usohu people living in Gogovosusu and Binduta to form one large village. Up to that time the villages had been confined to Jegase land but because

1 For place names mentioned in this section see Map.2.
2 Mentioned as a 'Jegase village' by Williams in 1923 (W.83), as are Sivepe, Pusahambo and Haninkumbari (see pp.34-7). He also lists them as Awala villages.
3 A number of the older Jegase men claimed that the Usohu people formerly regarded themselves as members of Jegase clan.
the Jegase people had no land on the Awala-Kendata road nearby, where they decided to build, they acquired rights to house-sites on the road on the land of the Be'ohuahije in return for rights granted to some members of that clan to build on Jegase land 3 miles away at Awala No.1. The Jegase people had begun to move to the new village, now Binduta, when Mt Lamington erupted. Although they were outside the limits of the area of destruction the people were evacuated for safety.

The Sesewopa, a small lineage, had accompanied the Bebehupa in their moves to Korogombata, Korinasusu and Binduta.

The Berekipa and the Arehu according to the men of Bebehupa, which is the dominant Jegase lineage, are groups which have attached themselves to the authentic part of the clan. The ancestor of 2 of the 3 Berekipa householders in Sivepe had also lived at Simbehata. It is generally conceded that he was a Jegase man but he left Simbehata to establish Euru village and then moved across the Sohu River to Hamburata several miles to the east near the present Kiorota, where he cleared and laid claim to virgin land about 1910.

The father's father (b1) of the oldest householder, another Jegase man from Simbehata village, was killed near Divinikovari in a feud with the Togahu people. On his death his infant son (c1) was adopted by his wife's brother at Hamburata village and his land was taken over by other Jegase men. The son had been named after a Timumu man of Euru village who allocated a parcel of land for his use, when, as an adult, he returned from Hamburata relinquishing any land rights he held there. He gardened for some time on the land of his sister's husband, a Be'ohuahije man but re-established rights to a number of parcels of his father's land which had been controlled by Bebehupa and Arehu lineages in his absence. He founded Pusahambo village on this land about 1920 and was joined by his wife's brother, a descendant of the first migrant from Simbehata to Hamburata. When he died at Pusahambo his sister's son (d2J) married his widow and adopted one of his sons, now head of the second Berekipa household in Sivepe (d3J). This man's son is the third Berekipa household head (e2J).

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1 The Be'ohuahije formerly lived in the nearby villages of Saunhambo and Hehereta and their land adjoins Sivepe village.
2 See Genealogy, p.52.
3 For relationship between namesakes (tato) see Williams 1930:96.
4 See Williams 1930:132: 'There is no rule against marrying out of one's generation.'
Neither the man nor his son has every cultivated his patrimonial land at Hamburata although they hunt and fish there. The man makes these periodic visits to affirm his rights as he claims that constant surveillance is necessary to forestall encroachment on his land. His father's brother controls the land in his absence.

By 1950 the members of the Berekipa households who numbered 12 had thus acquired only 5 parcels of land (totalling 9 acres) near Sivepe since the lineage returned from Hamburata 30 years before, and had to rely on other lineages for access to adequate land. After the war the Berekipa were asked by the Administration to move from Pusahambo to a village called Pamba where Arehu lineage was living. They seem to have been largely dependent on the Arehu and on affines elsewhere for planting rights since then.

The Arehu people had founded Totogata next to Simbehata and remained there after the other Jegase people had moved on to Euru and Korogombata. Some members of Bebehupa lineage, in refusing to recognize Arehu as a genuine Jegase lineage, explain that it is an immigrant group descended from a Togahau man of Arehu clan who was adopted as a child after a Jegase raid on the Togahau. The land the group now holds is centred on Simbehata and the Bebehupa, although they take little interest in it, allege that it was acquired when the Jegase man from Simbehata was killed at Divinikovari. The Arehu have retained and strengthened their rights over the years and to all effects have become absorbed into the local branch of the clan, extending their effective ties there by intermarrying with other lineages. When pressed, the only resident male (d4J) even answers questions about the position ascribed to him as one of the agnates in the local group by stressing that he and his father married Jegase women, as if no more need be said. The grandson of the alleged original land-holder has disputed the rights of the Arehu man to the parcel of land on which the old village Simbehata was situated.

Several years after the ancestors of the Bebehupa left Simbehata the Arehu were told by a government officer to amalgamate with other Jegase people and with the members of Timumu and Seho clans from Euru and Asina. The village formed on Seho land was old Sivepe with its satellite, Pamba; most of the people stayed there until they fled the Mt Lamington eruption in January 1951.

The Pekuma and Hajejopa lineages of Timumu clan had both joined the Jegase and Seho people in founding old Sivepe. The fathers

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1This clan today is represented in Sirembi village in Togahau Census Division and possibly in other villages there. In 1923 Williams (O.1) noted that they were also present in the villages of Porori and Ohamba.
SCHEMA OF MAJOR LOCAL MIGRATIONS 1900-1950*

- Extant Village
- Village now abandoned

Original Centre of Dispersal of Jegase

Double lines on arrow indicating a movement means that village was thereby abandoned. Movements with same date and destination were directed by administration, as was Berekipa move in 1948.

*Excluding wartime movements.
Relative positions of villages are distorted for the sake of clarity. (See Map 2.) Most prewar dates have a margin of error of at least 5 years. Figures are given only to indicate sequences. Dates most in doubt are marked ?.
of the 2 senior men of Sivepe had divided their allegiance between branches of the clan at Euru and Soroputa and had exercised rights to land near both places. Since the death of his father the Pekuma man (dlT) has lived first in Euru and then Sivepe with his mother's kin and later his wife's kin. He and his adopted son (elT) hold 28 acres nearby but he has never cultivated the land his father used at Soroputa; he sometimes obtains the permission of his father's brother to collect the produce from trees his father planted (see p.24).

About the time the older Hajejopa man (dl5T) established his household at Euru, he was involved in a dispute with his father's kin from Soroputa who wanted him to return or else relinquish his rights to the land his father had cultivated there before settling permanently at Euru. Like the Pekuma man he preferred to settle on the comparatively large landholdings (18 acres) near Sivepe and severed most connections with Soroputa.

(ii) Changes following the 1951 eruption. Sivepe-Pamba and Binduata were a few miles outside the area destroyed by the major eruption. Referring to the population of these marginal areas Keesing (1951:3) says that 'after the first panic of scattering... local groupings were in the main able to reassemble in the regional camps with such official aid as was necessary'. Refugees from the west side of the mountain were collected from emergency encampments along the Kokoda road and taken to a regional camp first at Wairope and then at Ilimo near the Kumusi River. The villages of the Jegase and Timumu were included in the danger zone which was defined about 4 months after the first eruption. They were about 7 miles from the summit and the danger area extended for 8 to 12 miles around the active crater.

When the limits of the zone were determined about 3,000 people whose villages were not closed off or who could find kinsmen to live with in resettlement areas outside the zone left the refugee camps. Most of the 2,000 who remained for some time at Ilimo were from the villages such as Sivepe on the more fertile land higher up the west and north-west slopes. Members of our sample however left to live with clansmen or other kin at Awala No.2 on the main road. In the chain of fairly continuous settlements which grew along the road great uncertainty surrounded land use problems. There were frequent moves, uncertain titles, disputes over tenure, and conflicting authority among leaders from different local and kin groups.

Most of these villages were still partially dependent on emergency rations issued to them while breaking in new gardens. Some of the Jegase people in Awala had their own small pockets of land nearby where they planted emergency crops and foraged; some made excursions during the day into the closed area to collect...
food from their abandoned gardens which they found in good condition, apart from the uncontrolled growth of weeds.

No doubt minor adjustments in the distribution of land rights were made in the course of resettlement of the land around Sivepe when the people returned after a year's absence. But they would not have been faced with the major problems met with in the crowded resettlement areas with large numbers of immigrants. When the people of old Sivepe-Pamba returned from the evacuation camp they re-established their village on its old site.

It was not long, however, before the Timumu people became involved in a protracted dispute with members of Kongahambo village (a new resettlement concentration near Sasembata), over garden damage caused by pigs, and in order to avoid more trouble they decided to move further away to build on their land at the present site of Sivepe village. The members of Berekipa and Arehu lineages and of Seho clan remained in the old village until a Patrol Officer asked them to reunite with the Timumu people. Since the Timumu were not keen to move back and since the occupants of the old village agreed with the Patrol Officer's assertion that it was poorly drained, these Jegase and Seho people moved to Sivepe in 1953. They were given permission to build by the Timumu lineage which owned most of the land on the site.

Meanwhile the Bebehupa had returned after the eruption to Binduta where they lived with Usohu people for about 8 years. Then friction between the 2 groups became too great and, following accusations of sorcery, 4 Bebehupa households came to live on pockets of lineage land within the new Sivepe. Their houses are not aligned with those of the Jegase men who arrived earlier but the other 2 clan branches tend to occupy distinct sections of the village.\(^1\)

(iii) The distribution of other clan branches. One Jegase clan branch lives several miles west of Sivepe in Hururuta village. Another group of Jegase splintered from the local branch of the clan after protracted disputes and settled at Kakendetta near Popondetta. The Sivepe people do not know how they acquired land rights there but insist that they voluntarily relinquished all their original rights. The clan is represented in Kiorota, Nahihita and Isoge; Plant (1951: Appendix 3) also reported that there were members of the clan in Kokitate and Pondohoe.

A large branch of the clan now at Suin village is said to have moved down from the slopes onto unoccupied land which lay between

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\(^1\) The houses of parent and 1 son or a married daughter are usually adjacent but those of additional children are often located elsewhere.
their previous location\(^1\) and the territory of their traditional 
enemies, the Divinikovari and Togahau, but informants disagreed 
as to whether this occurred before or after Europeans had 
established control of the area.

Timumu clan had also originated well to the south near 
Sasembata (according to its members at Sivepe) but fairly early 
in the century part of this clan too occupied land around Soroputa 
nearer the Togahau. Other members of the clan live at Sasembata, 
Hamburata and Kakita and possibly other villages.

The ancestors of members of Seho clan in Sivepe are said to 
have moved to the nearby village of Hanimkambari from an area 
closer to the source of the Sohu River on Mt Lamington. While at 
Hanimkambari they clashed with the first government patrols in the 
area. About 1910 some of the Seho people established another 
village, Asina, nearer the present site of Sivepe, later moving 
to join Timumu and Jegase groups at Euru. These old villages have 
now been abandoned but Seho clan is represented in numerous other 
villages in the area.

c. Localized descent groups

Our comments on the clan and village have emphasized that the 
typical village consists of several groups from different clans. 
Migrations also have usually been by representatives of particular 
groups. We now turn to an account of the individual's kinship and 
affinal relationships within the village. This aspect is best 
approached with an examination of post-marital residence.

(i) Residence. Post-marital residence is ideally patriviriloc al. 
But where residence is found to conform to the ideal, any reference 
to this norm should be supplemented by further data on the links 
between co-resident kin if we are to give an adequate account of 
the kinship composition of local groups; moreover, adults have a 
wide choice of residence. In fact, of the 12 householders in our 
sample, 5 were not living in their father's village, although 1 
of these was living with his adoptive father (his mother's second 
husband who was a member of her natal village); the other 4 were 
living only with matrilateral or affinal kin, or both in one of 
these instances.

It is significant that only 1 of the 7 men remaining had 
established his household in a village to which he was affiliated

\(^1\) This location may not in fact have been near Sivepe. It may 
have been Ombisusu (near the pre-contact village of Wasida) which 
Williams (W.10) says Jegase people abandoned to establish Suin 
after the arrival of the government. This may have involved a 
move down the slopes.
only through his father and even in this case his sister, her children and his daughter subsequently married in the village so he is now also living with other cognates and with affines. The 6 other men are living in the same village as their father's kin, but for 4 of them this is also their wife's home village, for another it is also his mother's village and the last man is co-resident with patrilineal, matrilateral and affinal kin simultaneously. In several cases certain people fall into more than one of these kinship categories in relation to 1 person. Six householders have sisters who have married within the village.1

In view of the fact that such a variety of relationships is found in this group, Hogbin's and Wedgwood's outline of Orokaiva local grouping, which is based on secondary sources, does not seem relevant to present day social organization in this neighbourhood. They regard the Orokaiva as patrivirilocalsecondary sources, does not seem relevant to present day social organization in this neighbourhood. They regard the Orokaiva as patrivirilocal2 (1952:4:64 ff.) and suggest that the parish or local political unit is an exogamous patrilineal group whose members were strongly united and unready to assimilate outsiders. Like Williams (1930:131-3) they mention frequent exceptions to this rule of post-marital residence yet seem to underestimate the degree of variability in the composition of the village and to overemphasize the solidarity of the unilinear group and the importance of the preference for patrivirilocal residence and of exogamy in localized patrilineal groups.3

Williams on the other hand says 'the Orokaiva organization very nearly approaches a bilateral system, though in theory it is patrilineal' (1925:407) and points to 'the laxity of marriage regulations'. Even in the small Aiga clan 'exogamy is not a hard and fast rule'; preference for intraclan marriage is sometimes expressed (1930:131-2). It may be thought a 'proper thing to keep the women in the village' - which Williams here implicitly equates with clan - 'in the hope of building up its population' (1925:408).

A striking proportion of marriages are contracted between members of groups in close proximity. Data available for 35 marriages contracted over 3 genealogical generations by the householders of our sample, or by their parents, siblings or children, show that in 22 cases 1 spouse came either from the

1 Four instances of brother-sister exchange marriage among members of Sivepe were recorded (i.e., 8 marriages).
2 Williams (1930:131) uses the term 'patrilocal'.
3 The local organization in this neighbourhood seems closer to the category of 'osculant multicarpellary parishes' than any other (see also Hogbin 1963:32). However, we believe that the abstraction, if legitimate now is not the most informative.
current village of the other or from a village within a mile of it, in 11 cases from within a radius of approximately 3 miles of it (in fact an area only slightly larger than the 'neighbourhood'), while 2 spouses came from outside the tribe. Williams (1930:131-3) speaks of 'a certain degree of local endogamy'. The Aiga village '(in which there may be several clans)...cannot be called exogamous even in theory'.

Belshaw too (1951:15) pointed out that marriage is usually between people whose parents do not live far apart. For this reason he warned that amalgamation of nearby 'hamlets' after the eruption might increase tension between groups linked by marriage. But relationships between affines in Sivepe appeared to be generally close and behaviour relatively informal and friendly when compared with other areas (e.g., Inonda).

Perhaps there is a similar contrast with former practice (see Williams, ibid:106, 114, 128, 131). However, in 1924 in a third area (the Ope or Aiga), the village, consisting as it might of intermarrying clans, was quite free from 'quarrels and ill-feeling' (Williams, ibid:315) and, moreover, it is 'not unusual' for a man to divide his time quite comfortably 'between the villages of his wife's people and his own' with the result that 'the relation between the father's people and the mother's people is, in practice, so friendly and intimate, that the child associates himself almost as readily with the latter as with the former' - 'so close is the intimacy between the two branches of the united family' (1925:407-8, 410).

Individuals freely and frequently change their village of residence, whereas the villages are enduring units. During the years 1957-61 the population of Sivepe and Binduta together averaged 165: there were in the same time no less than 113 movements of individuals into or out of this couple of villages and, according to data collected by ourselves, at least 13 between the 2 villages. The government census statistics reveal neither the cause, exact destination nor frequency of movement by an individual nor are his age or marital status recorded.\(^1\)

**(ii) Formal features of the local patrilineal groups.** In discussing the local disposition of clans, we have already taken 'clan branch' to denote the representatives of the clan living in one village. We retain the term not only for the Timumu group but also for the members of the 4 Jegase lineages living at Sivepe, even though these villagers do not constitute a group of co-resident agnates with functions to mark it as a distinctive unit within the

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\(^1\) Thus the figures do not differentiate between adults and children (see McArthur 1956:324-36).
wider grouping of Jegase clanmen in the neighbourhood, which we describe as the 'dispersed clan branch'. This consists of the reputed descendants of Jegase men said to have once occupied together the settlement Simbahata-Totogata on the territory since associated with the group. It now has its largest single nucleus at Sivepe but includes also the Bebehupa men scattered in other villages, who recently separated from other members of the lineage now at Sivepe.\(^1\)

Several writers have described one order or another of localized patrilineal groups in this census division as lineages (Belshaw 1951:2; Reay 1953:115; Norton 1962:3); in calling the Sivepe groups lineages, we have maintained some consistency with the terminology used for their formal counterparts in the survey at Inonda.\(^2\)

Each lineage in our sample at Sivepe retains a name said to have been transmitted from some remote patrilineal ancestor and each shares a distinctive plant emblem, erahu, associated with its identity as an agnatic group (see Appendix D). Williams (1925:410) notes that the erahu of matrilateral kin is used by householders to mark their distinctive personal identity within their patrilineal group.

The adult male membership of lineages represented in the sample, excluding absentee who have moved from the neighbourhood, ranges from 1 (Arehu lineage) to 9 in the case of the Bebehupa members of the dispersed clan branch. Members of each group trace precise genealogical relationships to one another. All the Bebehupa men with one possible exception can do so. Genealogical memory is short. Ancestry can be traced back to men of the generation of

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\(^1\) We should emphasize that the 'clan branch' and 'dispersed clan branch' are not groups at different levels of a hierarchical lineage structure and that the distinction is a device for discussing the Jegase groups in question.

\(^2\) At Sivepe we found that the use of the term ahije (or haije) was not restricted to reference to the founder of a lineage as at Inonda (Crocombe and Hogbin 1963:17). Any members of Jegase clan are called Jegasetahije and the founder of the clan is also their ahije. Moreover, the term may be used in another sense both to refer to any of ego's male cognatic ancestors or to denote any (or all) of a man's immediate cognatic descendants. Similarly epihie, said by Norton to refer to a lineage seems to be used rather for ego's maternal uncle or grandfather, paternal grandfather, etc., epimane (pl.) being a term for a number of these kinsmen, not for a number of lineages or a clan. Unlike ahije, this term is not used for descending generations too.
the father's father of the oldest members of the dispersed clan branch but the specific kinship relationships between these ancestors are forgotten.

The Jegase people do not name a putative founder of the dispersed clan branch. Nor do they assume that the eponymous ancestors of its subgroups were brothers. The single site of settlement of the ancestors of Jegase men in this neighbourhood is their only recognized evidence of common origin. But this focus of their common identity still offsets the more recent attenuation of intra-group relationships owing to dispersal. The lineages emerge as contrasted co-ordinate group-segments because their histories have diverged since they jointly occupied one territorial centre. There is no fiction of opposition between segments in genealogical terms.

Informants sometimes indicated a sense in which certain lineages are considered closer to each other than to the rest of the dispersed clan branch. This type of alignment seemed to be associated with a joint historical identification of these lineages with a part of their group's territory. It is possible that this in turn is due to a closer patrilineal connection now forgotten, but the people do not venture on this type of explanation.

(iii) Authority and land control in the descent group.
Anthropologists have remarked on the indeterminate system of leadership in Orokaiva villages and descent groups and the lack of formal sanctions for authority, and government officials have found that continued lack of emerging leaders impedes the planning of local government and village reforms. Williams discusses the 'absence of central authority' (1930:325) and the 'entire lack of any ceremony of chieftainship' (W.23): he points out (1930:104) that the titles for 'big men' (embo peni, embo dombo) imply only that they are 'men of importance who cannot claim to be leaders'.

There was however, a recognized ascendancy of old men. The 'leader and ruler of any clan' was said to be the eldest of its men provided he was equal to the minimal requirements of the position and 'only in the larger clans, where there are well-defined family groups, does the question of hereditary succession appear, and then it is a somewhat faint appearance' (1928:125) - but only if the large clans are localized, for he says that where 'the clan is scattered, there is no single leadership' (1925:407). On the other hand Reay (1953:115) says that 'the embo kiti, whom F.E. Williams called a "clan headman", but who is really more of a village headman whose position is hereditary within a certain lineage of the clan, has a limited authority which is backed by no sanctions' (embo kiti: first man).
A GENEALOGY OF THE SAMPLE

Adult male at Sivepe  Female  Deceased  Resident of nearby village. Significant non-agnosic Kin ties are shown. The numeral and generation of the known ancestor of each Jegasie lineage are shown beside the initial of its name. A suffix to numeral identifies Jegasie (J) and Timumu (T) householders. Seho members are denoted by S (preceded by a numeral for Sivepe householders)

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A : a3, a4
B : a1, b1
H : a5

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Diagram showing genealogical relationships with symbols for different kinship categories and numerals indicating generations and householders.
Our brief investigations indicated that neither seniority by age nor seniority by genealogical position is invariably an attribute of the men who today exercise power among local agnates or have influence in a wider local group. This may indicate recent cultural change. These men very often achieve and maintain such a position as men who are personally active in a wide range of affairs\(^1\) (delegation of responsibility by issuing orders is sometimes spoken of as characteristic of the European system of leadership). They will be vigorous gardeners,\(^2\) organize feasts and participate in a wide range of traditional exchanges, at the same time building a reputation as a man who has acquired material wealth, e.g., livestock and - to a lesser extent now than formerly - traditional valuables.

Not the least of their assets may be a reputation as a practitioner of 'white' magic, or as a dangerous man who has assiduously developed the skills of a sorcerer. The roles of 'big men' with these attributes may not be directly related to their age or genealogical status in a descent group. There are often several such dominant figures in a village.

The diffuse pattern of authority evident in villages in the neighbourhood under discussion may be ascribed partly to the fact that the present nucleated settlements are the culmination of a series of what the people feel to have been enforced amalgamations of independent kin groups. Even before this process began no source of political cohesion existed in the form of inherited positions of authority commanding the continuing allegiance of sizeable local groups of dependents.

The expansion of villages to embrace more kin groups was accompanied by a proliferation of independent minor leaders in a single local group, not by the consolidation of positions of power. A patrol report of 1948 also revealed that the large Isivita, Isoge and Awala 'native districts' had received so little attention from the District Office nearby that the organization of villages under village constables had been allowed to deteriorate 'almost to chaos' since the Japanese occupation.'\(^3\) 'One constable was found looking after eight scattered hamlets.' Moreover in some cases migration seemed to have been so extensive that the areas of a number of constables overlapped.

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1 Cf. kiti jigari (p.30).
2 Polygamists were able to maintain larger garden areas than other men. On the incidence of polygamy in the past see Williams 1930:130.
3 Note that in 1924-5 among the Aiga 4 of the 10 village constables were each in charge of 6 or more villages.
Residential units created for administrative purposes seldom had a single focus of allegiance. In the case of Sivepe, the officials appointed by the government in separate villages were thrown together in one village and were later replaced by the local government councillor.

In the mixed post-eruption settlements too, Keesing (1951:9-11) noted conflicting authority between men of different descent groups. Leadership had to be bureaucratically imposed and 'there were no signs of a self-motivated [political] superstructure taking form other than the strengthening of scattered clan ties'.

Varying definitions have been given of corporate descent groups whose representatives might be said to have legitimate control of land among the mountain Orokaiva: Norton (1962:2-7) describes the embo dombo as a man 'who by virtue of being the senior member of a lineage and by having a superior knowledge of land matters, is regarded as the chief authority in the lineage', and says that the composition of the land controlling group varies from 1 or a number of lineages within the clan to the entire clan. There are said to be as many embo dombo in a landholding group as there are lineages yet he later maintains that

in each 'clan' a male member, by virtue of his age, his seniority in a descent group and knowledge of the land, has a recognized authority over any matters affecting the activities of the clan of which he is a member and particularly on land affairs. There may be one such man in a 'clan' or a number and he is known as the Embo Dombo.

Norton suggests that every male member of the controlling group is an enda mamo (master of the land), and that the term has sometimes been incorrectly identified with a 'chief land holder'.

Belshaw (1951:2-3) states that the 'minor lineage', constituting all or part of a 'hamlet', shares land and works it together. But particular members 'through their slightly different relationship connections sometimes have senior claims to different areas of land' and a member is enda mamo only insofar as the group is currently cultivating the land to which he has senior claim.

Plant (1951: Appendix 2) diverges more from Norton's definition of enda mamo saying that there is one man with this title who is guardian and administrator of land, which is vested in the clan. Although these powers in land matters are more continuous and wider in scope than Belshaw maintains, Plant explicitly distinguishes them from the status of embo (peni) dombo (clan headman). He narrows them further to residual rights to make decisions, in council with clan members, on important matters concerning any of the areas which sections (or segments) of the clan in different
villages and individual members of these groups have come to regard as their own, since 'usage tacitly becomes ownership'.

Norton's use of *enda mamo* seems the most accurate whereas we would accept as valid for groups of any order Plant's separation of the status of *embo dombo* from that of a 'chief land controller' (or of any man with an authoritative local and historical knowledge of land). But we found no evidence to indicate that any person at Sivepe exercises rights to the land associated with either of the 3 clan branches, such as the land rights Plant and Belshaw attribute to the *enda mamo* or Norton attributes to the *embo dombo*.

Among our recorded cases of land falling without direct lineal heirs, none seems to show that a person such as an *embo dombo* acquires it by exercising reversionary rights on behalf of the wider agnatic group.

Just as the function of a descent group of given dimension or local organization is specific to a time and place, the way control over land has devolved among its constituent units closely defines the role of the member (or members) with most influence in issues concerning land, whatever powers he happens to exercise in other connections. The nominal leader of the dispersed branch of Jegase clan is the local government councillor: an assertive middle-aged man, he is senior by any reckoning to other active members of Bebehupa lineage. He has more land than any other Jegase man in the neighbourhood. Nevertheless the scope of his authority in land matters affecting other Jegase men is severely restricted in that the interdependent Arehu and Berekipa lineages have been completely independent of others in the control of their land for the past 50 years.

He retains prestige and influence in many matters of concern to his own lineage. He can claim prominence among more close agnates than a leading man of any other lineage in our sample, even though the Bebehupa have now dispersed from Binduta to Garombi, Nahihita, Kakita, Awala and Sivepe. They now say it is their responsibility as *embo bajari* (protector or sometimes a co-parcener, especially one responsible for controlling holdings of other heirs) to look after particular parcels of lineage land near these villages.

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1 Ibid., quoting Williams (1928:125), who is referring to 'sections' (alternatively 'branches' and 'families'). See Norton (1962:8): the tacit permission of the clan for individuals and their descendants to use a vaguely demarcated area is not a 'permanent or ultimate authority vested in the individual by the passage of time.... This in no way grants the man or his successors ownership rights in it' (ibid.:9).
Actually no power has been delegated by the leader of their lineage. They are de facto custodians to the extent that circumstances had forced them to leave their original village and each selected a place to settle convenient to one of the areas where he could exercise individual rights to patrimonial or other land. They could at the same time protect the interests of other members with landholdings nearby. Although they refer to this trust as Bebehupa land, the reciprocal obligations seem to have followed on a mutual agreement reached by particular individuals.

It is however in this group that the councillor still expects to exert most influence in the discussion of general affairs. Within it he has a recognized standing as the largest landholder. On this account his opinion and knowledge of the locality are respected also by Jegase men of other lineages. Besides, they share many boundaries with other Bebehupa men and with members of Binduta and Awala villages among whom he could conveniently serve as a representative of their interests, having closer ties with these villages than they.

Otherwise his powers outside the affairs of the dispersed Jegase lineage are related to his position as councillor. He and another councillor were elected by Sivepe, Binduta and Awala villagers before he left Binduta and attached himself to Sivepe. In this capacity he receives no more support from other Jegase men in Sivepe than from the rest of the village. In 1963 a young man of another Jegase lineage there, with considerable support from voters within Sivepe, was a rival candidate for councillor for the 3 villages but was unsuccessful.

We have so far discussed only the powers of Bebehupa men, either in their lineage or in the clan branch. The other Jegase men enjoy rights of land control which are even more limited. The proprietary rights now held by each householder of the Berekipa-Arehu part of the clan branch were acquired by him independently of the others. Although there is frequent interchange of planting rights and consequent discussion among them as to the allocation of their resources none of the 4 could claim of right an equal voice in the control of the others' land. Again, each of the 2 Timumu lineages had settled independently in the neighbourhood of Sivepe by acquiring land from sources inaccessible to the other.

Associated with the weakness of central control over land of smaller groups on clan branch territory is the complete freedom each landholder has in granting usufructuary rights, provided due consideration is given to the anticipated physical needs of any joint heir (i.e., a sibling) or of any dependents for whom he is responsible. Each thus maintains relationships with other
individuals by creating and fulfilling obligations independently of other members of the descent group.

(iv) Landholding by the local patrilineal groups. After a closer look at landholding by the lineage, we will comment first on non-agnatic and adoptive relationships in connection with land acquisition and then on the interests in affiliation to the dispersed clan branch as a group associated with a territory.

In the instances recorded of title to subdivisions of a lineage's land having descended in 2 or more separate lines we refer to the landholders as members of distinct 'genealogical branches' of the lineage, even if the landholders are parallel cousins. The type of lineage we describe, however, is not characterized by regular internal structure, for often it is not easy to distinguish lineage from kinship in terms of function.

It is as true of the mountain Orokaiva as it is of most New Guinea Highland societies that

the principle of recruitment to a man's father's group operates, but only concurrently with other principles and is sanctioned not by an appeal to the notion of descent as such but by reference to the obligations of kinsfolk, differentiated according to relationship and encompassed within a span of only two or three generations.

(Barnes 1962:6)

The solidarity of the current relationships between the males of the lineage can be regarded as a function of the closeness of the ties of agnatic kinship, real or adoptive but of close degree, which among the Jegase and Timumu1 are effectively reduced to a lineal relationship between, at the most, 3 generations of householders. The strength of the readily noticeable identification of the lineage with an estate distinct from the land of the rest of the dispersed clan branch can be seen as a measure of the interdependence between these close agnates.

A lineage such as those in our sample is the largest group whose members co-ordinate their gardening activities to exploit land associated with it. But against this must be set the independence often exercised by individual lineage members, who, in consolidating other ties of their own, acquire and dispose of short-term landrights. Perhaps some individuals co-ordinate their activities with non-agnatic kin, affines and friends as much as with members of their own group.

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1 Excepting the Bebehupa: all but 1 of its members (see b6) are descendants either of its oldest surviving man or of his father's brother.
It is characteristic of the lineage that some mutual consideration is given by its members to each other's immediate expectations. This would appear consistent with the fact that it is only within the lineage that there is mutual anticipation among agnates that their land is the assured and exclusive patrimony of junior members.

Even members of a lineage with no single local nucleus in neighbourhood villages may be more closely associated in the tenure of land than are a large number of agnates living in one village but representing several different lineages. The Sivepe Bebehupa hold contiguous subdivisions of far fewer blocks of land with their co-resident agnates than they share with Bebehupa members living elsewhere, but considerably more than the Bebehupa outside Sivepe share with the other lineages. The dispersed Bebehupa claim that their members recognize certain exclusive though minor land rights and obligations (see p.55-6).

The members of a lineage do not trace an exact relationship with the group's founder but they attempt to reckon descent from the ancestor who is believed to have established their rights to lineage land. These rights were established in various ways.

The Bebehupa assert that the ancestors they are able to name acquired by right of original settlement the large share of Jegase territory occupied continuously by their descendants. On the other hand, when the Berekipa and Arehu tell of ways an ancestor gained control of parcels they now hold, the only common element which emerges is acquisition by reactivating rights once held by patrilineal ancestors.

No land is shared by the clan branch as a whole. With no significant areas of rainforest or grassland in the area, all land has been claimed long ago as gardening land by lineages of various clans. There are considerable differences in the land areas available per head of population to the representatives of each age and their dependents in our sample. These areas are:

Bebehupa (18 persons), 64.1 acres, 3.6 acres per head
Arehu (3 persons), 14.9 acres, 5.0 acres per head
Berekipa (12 persons), 12.7 acres, 1.1 acres per head
Sasewopa (1 person, not included in sample) 3.8 acres

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1 The large area north of Sivepe covered by rainforest in 1953 (see Map 1) is land held by Soroputa villagers. Before Mt Lamington erupted, there were only 3 small villages (Soroputajajemo, Togorisusu and Handarisusu) in the area between Sivepe and Agenahambo. These 3 villages of the Soroputa 'district' were in 1953 almost certainly still at the post-eruption settlement named Soroputa. Most immigrants to this village had not decided to return to their land nearer the volcano by 1956.
Pekuma (9 persons), 28.2 acres, 3.1 acres per head) Timumu
Hajejopa (8 persons), 18.1 acres, 2.3 acres per head)
(If Jegase and Timumu are each taken as a whole, either unit has
2.7 acres per head.)

From data recorded for 104 parcels of land held by the Jegase
and Timumu at some time over the past 2 generations we discovered
8 instances of transfers (involving 30 parcels) where the land
had passed from the original holder to one of his co-resident
kinsmen in another lineage or clan. There may well have been
more, earlier examples of such transfers. If so they have been
forgotten by the people who can conveniently treat all previous
occasions when their land changed hands as instances of patri­
lineal inheritance.

Three members of these clan branches stated that they intended
to transmit a total of 12 parcels to members of other clans (see
Appendix E, pp.111-17). Two other members intended to pass 5 to
their adopted sons and 3 more parcels were to be inherited by an
illegitimate child from his mother (see Appendix E, p.112). One
widower has nominated his sister's son as heir to his parcels of
land and claimed that his sister's son could also receive his
brother's land, allegedly forfeited through long and continued
absence (see Appendix E, pp.112-13). One man said he would leave
8 parcels to members of his adoptive group and the 5 inherited
by his wife would pass to a person of the same group, a different
genealogical branch of her lineage (see pp.60-1).

Land rights of various kinds are acquired and maintained as a
function of one's relationships with any of a number of groups.
Most proprietary rights are acquired within the range of sources
provided by patrilineal and matrilateral kin and other cognates
and affines but adoptees may also acquire proprietary rights
within landholding groups. In most cases noted where a man had
been adopted by a member of his own or a nearby village he had
continued to exercise in full his rights to the land of his natal
group.

In former times it was not uncommon for a successful warrior to
bring back the son of a victim he had killed during an intertribal
raid. The child would be brought up as a full member of the
adoptive group and would acquire land rights there. (Any new­
comers' descendants, such as the Arehu lineage, may be absorbed
into a narrow adoptive group of agnates while they are incorporated
only marginally into the wider descent group.)

There are frequent instances of temporary foster relationships
at Sivepe. Although a man who adopts a local child sometimes
acts only as a foster father without needing to grant land rights,
an adoptee needs neither to be destitute nor to relinquish any
rights he has already received from his natal group before he may acquire proprietary rights and become a permanent member of the adoptive group. He may transmit the former rights to his sons, themselves full members of the new group.

As long as he stays with this group and land is not in short supply he may inherit an equal share with his adoptive father's children. All rights are relinquished if he returns permanently to his natal group. If the land held by the adoptive group is scarce and extensively used by its members, he may become a permanent member of this group without acquiring rights to its land, especially if he was not previously related to the group or if he has access to other land.

An adoptee can continue to exercise his rights to land of his father if it is nearby but it may be difficult for him to retain land which is too far away to cultivate often and, unless he has close kin there protecting his interests, his rights and group identification tend to be contested.

The way rights are established by adoption, as with rights acquired by other processes, cannot be predicted far in advance for the actual rearrangement of proprietary rights in any particular case will be determined by the current relations between the parties involved.

By way of example, one man born into Ato clan is living with his wife's lineage, Bebehupa (of Jegase clan). He has no other close kin and Awala is the nearest place of residence of any member of his natal clan; he is widely and consistently spoken of as a Jegase man (d6J). When his father, a member of Heherita village, was accidentally killed when trying to mediate in a violent dispute between his clansman and Jegase people, his mother married a man of Arehu lineage. He was never given rights to plant on his foster father's land because it was under heavy use but he inherited some land near the Jegase holdings from his father. His wife also inherited land from her father, a Bebehupa man, who had no sons or brothers, and he has sometimes cultivated that.

However, due to serious illness, he is not active in the social and political affairs of his foster father's and affines' local descent group. As he is in a dependent and marginal social position and can use land of his own, his intermittent efforts to cultivate the Bebehupa land are not warmly welcomed by the leader of this lineage, regardless of the stated intentions of both the adoptee and his wife, a childless couple, to pass the land which each inherited to the sons of the Bebehupa leader.

In practice there are no land rights and obligations which the different Jegase lineages recognize toward each other as members
of the dispersed clan branch and the only effective rights held in common by the Jegase members of Sivepe are those shared by members of the village as a whole (see p.22).

In land matters, as in other affairs, the closeness of personal ties between specific individuals in the Jegase group is usually of more account than shared membership of the dispersed clan branch - whether or not these interpersonal connections are agnatic: the dispersed clan branch is not exogamous and no preference is expressed for marrying out. In fact the 3 lineages, Bebehupa, Arehu and Berekipa, have been linked by several marriages in recent generations. In many circumstances the resulting network of cognatic and affinal ties is more important than lineal ties in determining what decisions are made or what action is taken.\(^1\)

When the land of another local lineage of the clan is used for gardening, the usufructuary rights are granted and exercised more often because the landholder and gardener have a personal kinship relationship than because they are neighbouring clansmen.

The web of interpersonal kinship is, of course, not confined to the local agnatic group but pervades relationships between the clan branches in this and other villages in the neighbourhood, as indicated by the data on the range of Sivepe marriages and on the complex ties which either spouse (or both) is often found to have in the village where the couple reside. For several decades a constantly changing network of cognatic and affinal ties has linked members of a number of kin groups who have continually grouped and regrouped themselves as local units like Sivepe and its forerunners.

The dispersed clan branch is a significant reference group in land matters even though it has no land held in common by all members. Responses to initial enquiries about land rights of members of patrilineal groups always indicated that the Jegase lineages together in some contexts consider themselves to be one unit which is distinguished from the branches of other clans represented in Sivepe and other villages. It is not easy to discern the real interests which this response reflects.

The dispersed branch of a clan is the most enduring group which is acknowledged by all to be associated with a particular territory; a person's affiliation to this group is the standard rationale of his presence in the village and neighbourhood in which he lives and works. Ultimately the general basis for the tenure by any group within the dispersed clan branch, of its own share of land

\(^1\) We noticed that the importance of non-agnatic ties is sometimes reflected in choices in the use of kinship terms.
is the claim, however well founded, that this was part of the
local ancestral land of men of their own clan.

The affirmation of the common territorial interest of the group
of Jegase clansmen in the neighbourhood would occur only when we
were proceeding with a series of enquiries both into the boundaries
of the scattered parcels held by smaller groups or by individuals
and into the source of their rights. This suggested that, in view
of the frequency of individual transfer of parcels of land among
non-agnates, the explicit assertion of the unity of the enduring
group and its territory may be an ex post facto argument. This
is both an affirmation of common grounds for legitimate land claims
of individuals and lineages, irrespective of the actual origin of
their rights, and also the most decisive means of differentiating
clearly one parcel of land from adjacent holdings of members of
other clans.

The appearance of a patrilineal ideology in this context might
be expected of members of a loose-knit descent group with a
territory interspersed with territories of other members of the
local community in which an elaborate network of non-agnatic and
affinal ties plays an important part in each individual's life.
It is by virtue of such interpersonal ties, hardly less than by
shared membership of a local patrilineal group, that close face-
to-face contacts and bonds of friendship are maintained, mutual
assistance is offered, temporary rights to land are exchanged and,
by these means, claims to inherit land are established in many
circumstances.

d. Patterns of landholdings

There are 60 blocks altogether which are either wholly or
partly made up by one or more of the parcels held by the sample
(138 acres in all). In general each block is held by members of
a single clan branch but 3 are divided so men of each of the 2
sample groups hold sections. In other instances members of
different clans and of other villages hold a contiguous section
of the named area but these were not measured. Eleven blocks were
subdivided between 2 lineages of the same clan and just on half
the total number of blocks contain internal boundaries between
different householders in the lineage. No 2 householders are
regularly associated with one another in the holding of rights in
the subdivided blocks. The distribution of these and other
parcels of the lineage land among its members is almost random.

1 In one instance 2 men (who are brothers) held adjacent sections of
several blocks but these sections represent only a small proportion
(by area or number of parcels) of the landholdings of either man.
For example the sons of 3 brothers, A, B and C (see d10J, and d9 and d8 on genealogy) together with another classificatory brother D (d12J) between them shared rights to at least 13 blocks of Bebehupa land. A and C held 1 block, A and B held 3, A and D held 2, A, B and C held 2, A, B and D held 2, A, C and D held 2, and A, B, C and D all held sections of 1. Data on B's and C's land were collected incidentally since they were not included in the sample and they may have other blocks which they share. D has other blocks some of which are shared with other people. The sections held by any one of these 4 men do not form significant patterns of contiguous holdings or even distinct patterns separated from the land of another of the 4. The spatial distribution of his sections reflects only the general distribution of the land of the Bebehupa in relation to land of other descent groups. Nor are the sections allocated among the 4 men according to soil types.

The arrangements for dividing the land between brothers are associated with the fragmentation of land held by individuals and groups. Informants could not account in any detail for the complex pattern of the distribution of parcels of land among different groups or even among a few householders of one lineage but would cite the practice, perhaps adopted by members of successive generations, that a man with a number of sons would divide his larger blocks of land and distribute the sections and other smaller parcels among them as convenient.¹ A sequence of transfers of even a few of these small parcels between kinsmen not of the same lineage, is a further process which, although informants did not suggest the possibility, would readily produce fragmentation of holdings of descent groups; we came across no instances where reciprocal transfers were effected in order to consolidate either areas of land held by individuals or territories of groups.²

There is extensive interpenetration of the landholdings of clan branches in the neighbourhood. The largest continuous area of Jegase land is centred around the abandoned sites of previous settlement, particularly Simbehata and Pusahambo where most of their ancestors lived earlier in the century. Members of this

¹ Two brothers in our sample each claimed a particular number of the father's blocks and sections for himself whereas they held joint rights in other blocks which could be passed on to their sons. However, we could not establish the reason for this distinction.

² We know of 1 man (d9) whose share in an inheritance of land from a distant clansman and maternal kinsman (see Appendix E, p.111) was organized so that the parcels he received were those which his clansman had held adjacent to his (the beneficiary's) own patrimonial land.
clan branch claim that in the years before contact Jegase men extended their control over areas of land northward from this area toward the territory of the hostile Togahau and Divinikovari. They claim that this expansion was restricted by pressure from enemies but it is difficult to determine how often open conflicts preceded settlement in these outlying areas or how much it was limited rather by expansion of descent groups within the tribe or of other local groups.

The pattern of fragmented landholdings of local clan branches is said to be due to the fact that members of allied clans would move into an area of unoccupied land about the same time to clear contiguous areas. Any descent group which later found its holding no longer adequate for immediate needs and wished to open up new land would often find the surrounding land already settled and would move to the edge of the area so far appropriated as gardening land by the members of these groups. The explanation sometimes given for the existence of an enclave of one clan branch's land within another's is that a Jegase man, for instance, had lived with the Seho people holding the larger area and had cleared virgin land near them.

The men exploiting new land often worked in association with some of their co-resident clansmen but the apparent lack of regular co-operation between members of patrilineal groups larger than the expanded family in opening up unoccupied land may account for some of the present scattering of clan branch land or even of the areas occupied by separate branches of 1 clan.

Informants stated that the initiative in establishing rights to previously unoccupied land was taken by individual cultivators and that the land which they acquired was retained by their lineal descendants.

Some people suggested in answer to our questions that subdivision and further fragmentation of areas of Jegase territory, now identified with one or other of the lineages, occurred where large numbers in successive generations settled within, and made more extensive use of, one after another of the areas where an ancestor had been first to claim land or had at some stage effectively occupied it.

1 Norton (1962:6) gives a similar explanation of fragmentation and suggests that it occurred more often after the extension of administration control when the co-operation between members of separate clans formerly residing together for mutual protection was carried over into the activity of opening up areas further afield from their village.
Overall the land of Berekipa lineage is more fragmented, though less scattered than the holdings of the Bebehupa, which are larger.

From detailed accounts of completed land transfers between the Berekipa and Arehu, whose present holdings are mostly interspersed near the sites of Simbehata and Pusahambo, and from other historical data we infer that this land previously formed far more continuous tracts belonging to descent groups such as these. To a noticeable extent the spatial relations between the shares of the Bebehupa, Berekipa and Arehu in the extended tract of Jegase land marked by the sites of former settlement can be construed as a territorial correlate of the pattern of each lineage's ancestors' migrations to or from local groups there. The shifts of residence relevant today are remembered in some detail.

**e. Land use and mobility**

Williams (1928:156) advocated a change from shifting to sedentary agriculture for the Orokaiva on the grounds that the former was wasteful of land and labour, and that the tendency to form small independent settlements resulted from the 'lax method of horticulture which necessitates the clearing of many areas in succession and sometimes a temporary settlement on a distant site'. He considered shifting agriculture to be 'one of the most potent causes of village and clan disintegration'.

Keesing (1951:8) noted that the mountain Orokaiva had generally resisted the post-war movement to consolidate into larger villages. So long as the 'mobile economic base' persisted, he considered that resettlement into larger permanent villages after the Mt Lamington eruption would be unlikely to succeed. The Orokaiva showed no inclination to adopt more intensive sedentary cultivation and he predicted that a return to shifting agriculture would involve 'seasonal movement' outward from the environs of the settlements to new cultivation areas, and later the resumption of settlement in scattered hamlets. In view of these assertions about the connection between agricultural practice and settlement patterns, upon which Williams and Keesing based their discussion of economic development, it may be useful to examine the relations in Sivepe between mobility and village stability on the one hand, and traditional land use on the other.

Keesing suggests that the tendency, mentioned by Williams, for the Orokaiva to disperse into smaller residential units since pacification had been particularly marked on these heavily populated slopes. The suppression of intertribal feuding probably

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1 To a lesser extent they are also interspersed with parcels of other lineages' land.
facilitated the type of local movements that we noted occurred in the neighbourhood of Sivepe. However at times\(^1\) the density 'on the ground' of villages of the standard size found in the other Orokaiva tribes may be misconstrued as a state of advanced fragmentation of settlement.

It should be noted that the limited amount of relevant detail on the areas where Williams worked\(^2\) fails to indicate a significant difference in size between the Aiga village averaging 26 people at that time, and the Wasi da village, with about 6 houses and a single-boys' house.

The Sivepe people have moved only singly or in small groups except when villages have been directed to amalgamate by the Administration. The villagers say that, except when they were evacuated to Ilimo refugee camp, they have never been forced to move from the area which had been held by their ancestors, or to rely on outside groups for access to land. Our evidence indicates that, except for limited expansion into unoccupied land early in the century, all the major shifts of residence of the sample clan branches have been confined to their own territory.

People who have moved to take up rights in other land have done so by exploiting personal ties of kinship or affinity. We found no instances of overlapping land claims at the clan or local branch level such as are found in other areas of Orokaiva territory where enough land was available for whole clans to move the location of their settlement some distance to unused land of a friendly group.

Belshaw (1951:3) observed that in the years preceding the Mt Lamington eruption there was much feeling among Government officers that the relatively poor houses of the district, and the small hamlets, should give way to new villages built on the 'Kokoda' pattern, that is a line of substantial houses built around a grassy village square.

The people tended to resist this change, but they had made some moves to amalgamate 'hamlets' (see p.34). He noted also that there was much movement between villages, and that it usually involved a man's leaving his father's land to live on that of his mother or his wife.

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\(^1\) For instance, when the densely populated area stretching from Isivita to Isoge and Awala villages struck the writer of one generally observant report as 'literally a mass of small hamlets' some of them with no more than 20 members.

\(^2\) See Williams 1930:7; W.l.
Individual mobility is still high, as we have already noted. Mobility is facilitated by the fact that material for housing—
wange timber framework, blackpalm floor, walls and roof-thatch from sago trees\(^1\)—is usually readily available and houses have an average life of only 4 years.

The patrol of 1948 which found this area 'literally a mass of small hamlets' alludes to a possibility that the proliferation of these groups had become conspicuous only 'since the Japanese invasion'.\(^2\) The long-term trend after the 1951 eruption, the next catastrophe to cause displacement of population comparable with the wartime upheaval, was towards effective consolidation instead of the proliferation of small groups, such as the scattering of post-invasion days.

When people began to leave the evacuation camp there was a spontaneous trend, which was encouraged by officials, towards building larger villages or, alternatively, clusters of 'hamlets' within sight of each other (Belshaw 1951:5 ff.).

Plant (1951:6) and Belshaw (1951:6) suggested the following reasons for this tendency: that reconstruction would be easier if large numbers of neighbours co-operated; that the renewed interest in co-operatives led to a desire for larger groups; that the example of Ilimo Camp had given people the notion that larger groupings were correlated in some way with higher standards of living; that the Europeans, whose goodwill was now evident, favoured bigger settlements; and finally that their common disastrous experience had reinforced their sense of unity.

Although the present-day villages are smaller than those established at the start of the resettlement before the danger area had again been occupied, they are considerably larger than their counterparts of pre-eruption days: Belshaw (1951:2) says that the population of 'hamlets' in the area was of the order of 20 to 80 and the population of the 'hamlet group' under one name ranged from 150 to 400. At present in the Saiho Census Division the average population of the residential unit, in nearly every instance a nucleated village, can be no less than 175.\(^3\)

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\(^1\) Some informants stated that materials (except sago) could be collected from any village members' land but most claimed they sought wood only from lineage land unless invited to use trees by particular kin from other groups.

\(^2\) This report was probably the major source of Belshaw's and Keesing's information on the pre-eruption situation.

\(^3\) We do not know the average size of a group of villages known by a 'hamlet group' name such as Awala, Waseta, etc.
At the time of resettlement these writers drew attention to the possibility that the composite villages would eventually be disrupted either by aggravated friction between members of different clans who had not lived together before or by the unsuitable siting of the settlements with regard to access to the villagers' own gardening lands.

The first problem was solved by individual mobility. Our own experience which is confirmed by the observations of patrol staff is that fear of sorcery, which follows tension within the village, is one important example of the vicissitudes of social relationships which are responsible for much of the movement from one village to another at present. But the problem of the location of gardens in relation to residence was solved in time wherever people moved from the main road or other temporary settlement areas to new sites on or near their old land.

This land use problem was peculiar to the exceptional resettlement conditions and Keesing seems not to have considered this point when he concluded that the formation of larger villages was incompatible with the economic base of shifting agriculture. His prediction that people would continually 'hive off' into hamlets of a dozen houses consistent with their familiar system of seasonal shifting gardens does not seem to have eventuated.

The scattering of an individual's land interests over a neighbourhood facilitates mobility between adjacent villages because after moving, for whatever reason, he can often continue to exploit rights to those lands which are at a convenient distance from his new village. We found, however, no evidence to suggest that shifts of residence are determined by a continual need to clear new areas for cultivation even if these areas lie scattered near a number of villages.

Residential mobility is not as closely correlated with changes in gardening sites as it is among the Chimbu even though, as Williams says, the Orokaiva move their garden sites frequently. Among the Chimbu, on the other hand, where a long cultivation period usually of at least 4 years, sometimes broken by short fallow periods (when the area of cultivation within the plot is shifted), is followed by long fallow periods of varying length up to about 20 years (Brookfield and Brown 1963:52), 'the principal factor determining residence is land; most men prefer to live near their main blocks of currently cultivated land' (ibid:97).

1 Other examples are disputes between kin, and life-crises. About 1956 the oldest Bebehupa man left Binduta to spend his last years at Nahihita, an area to which he has been emotionally attached for much of his life. One or 2 close kin went to look after him and a series of other Bebehupa have followed.
With the passage of the cultivation cycle over a Chimbu sub-clan's territory, gardeners move from one men's house to another, either as a persisting group of agnates working contiguous holdings, or as individuals joining more transient groups which are dissolved as gardens near the house revert to fallow (Ibid:98; Brown and Brookfield 1959:68). As they extended their cultivation to other areas, 37 percent of a sample of 193 men had moved from one men's house to another over a period of 16 months (Brookfield and Brown 1963:98) and the men's houses themselves last no longer than 5 years (Ibid:12).

In Sivepe on the other hand, gardens tend to be scattered and isolated. Father and son often have adjacent plots in one garden area but the son usually has at least 1 other garden elsewhere. A young married man often has 1 garden on the land of his wife's father, whom he will periodically assist in his garden. Older men in general adopt the technique of progressively planting and clearing a single large area while younger and more active men, usually with more obligations to affines, tend to cultivate several scattered smaller plots.

There is no local group or extended kinship group which commonly combines to make a block of contiguous gardens. Even when all members of the village plant simultaneously for a special feast, the gardens are not adjacent. A man usually takes advantage of the choice of exercising planting rights on the land of a wide range of kinsmen (not necessarily his agnates), both those within the village and to a lesser extent kinsmen from other villages. Several had current gardens on their mother's brother's land, some on the nearby land of their wife's brother, sister's husband or daughter's husband.

In other Orokaiva areas (such as Inonda) gardeners of one lineage often have a reciprocal arrangement with another lineage of the same clan in the village to cultivate a parcel of their land with them, but this is not a common practice at Sivepe. In the few cases where several kinsmen have made adjacent gardens the gardeners are mostly cognatic kin from different clans or villages and each will probably make his next garden with different kin or on an isolated parcel.

Encroachment on boundaries is feared1 but does not seem to result in repeated changes of residence as it does among the

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1 The 3 instances of boundary disputes recorded were between Bebehupa and Usouh people. According to the older men the Usouh were formerly a Jegase group and they share many boundaries with the Bebehupa; the recent split in Binduta between the 2 groups has been accompanied by friction over a number of issues including the definition of boundaries.
Table 5

Rights to land currently cultivated by the sample

<table>
<thead>
<tr>
<th>Nature of planter's rights to the land currently gardened</th>
<th>No. of gardens</th>
<th>Area of gardens (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Planter is a member of lineage holding proprietary rights</td>
<td>15</td>
<td>9.17</td>
</tr>
<tr>
<td>2. Member of a different lineage but same clan branch</td>
<td>5</td>
<td>2.57</td>
</tr>
<tr>
<td>On land of planter or co-resident agnate</td>
<td></td>
<td>11.74</td>
</tr>
<tr>
<td>3. Member of a different clan within the same village</td>
<td>10</td>
<td>4.49</td>
</tr>
<tr>
<td>4. Member of another branch of the same clan</td>
<td>1</td>
<td>0.10</td>
</tr>
<tr>
<td>5. Member of a different clan and village</td>
<td>3</td>
<td>1.51</td>
</tr>
<tr>
<td>On land of others</td>
<td></td>
<td>6.10</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>17.84</td>
</tr>
</tbody>
</table>

Notes: 1. Of the 5 members of other clans or villages who were using the sample's land, 2 were using the land of their mother's brother's sons, 1 the land of his sister's son and 2 the land of members of their dispersed clan branch in a village other than their own.

2. For rights to land carrying cash-crops see Ch.4, Section c. and Ch.5, Section b.

Chimbu or to influence the choice of a garden site; a Sivepe man shares land boundaries with many gardeners but his prescriptive rights to his holdings are not so constantly jeopardized if he fails to cultivate his land while neighbours are using adjacent areas (see Brown and Brookfield 1959:25).

Moreover with short periods between successive cultivations and with necessarily extensive total areas used for cultivation a man claims to be able to fix boundaries on fallow land in some detail. These are either demarcated by large trees or shrubs at fixed points or coincide with the courses of the numerous creeks or with roads. The boundaries common to members of different clan branches appear to be neither more nor less clear than those shared by smaller groups.
f. Local organization and land transfers

(i) Land use. The use of land is necessary in two senses to validate a land claim among these Orokaiwa. Usage is an important factor in determining the extent to which land is identified with the component units of the group which claims to hold land (cf. Williams 1928:125 and Plant 1951: Appendix 2).

Four factors have produced a closer identification between a household and the patrimonial land it cultivates than in some other Orokaiwa areas: first, the frequency with which an adopted member retains and transmits to his own descendants land which he acquired from his natal group; second, the limited supply of land; third, continual use by people of the lineage land used by and inherited from their fathers, in that no special access to land of other lineages of the clan branch is accorded to them simply as a group of co-resident agnates; and fourth, a fertile soil which allows a short fallow cycle after single plantings of a predominant soil-exhausting crop.

It has been common practice for distinct genealogical branches within the lineage to exercise continuous and exclusive rights to separate areas of lineage land. The small group within which these prescriptive rights are exercised and transmitted does not easily endure demographic changes and if there are no surviving male members, the rights it exercised may in certain circumstances devolve on a female member, for instance, and subsequently to her son, even if he is illegitimate, or perhaps a claim of a relatively close agnate will be overridden in favour of a distant clansman, with or without other cognatic ties to the group. When these rights are transmitted outside the direct male line, residence and land use are important as factors which influence the definition of the rights of the beneficiary vis-a-vis surviving members of the wider patrilineal group. As noted above the scope of the authority of members of the wider group in questions of land tends to have been limited by the frequent independent movement of the smaller units.

Our descriptions of the kinship composition of the village and neighbourhood and of the social elements of land use indicate that it is common to find men living and gardening in the same village or neighbourhood as their mother's or wife's kin and that the relationship with these people in certain cases overlays some patrilineal affiliation. Individual ties of clanship too are sometimes given new significance when reinforced by co-residence and exchanges of gardening rights. These patterns, we suggest, are correlated with repeated instances of transfers of prescriptive land rights from the small effective landholding group to kinsfolk of other lineages or clans.
In such circumstances where the recipient and the original rightholder have lived in the same village or in neighbouring villages which are closely related and have worked together the land in question will be occupied by a person who has already established and maintained an accepted status in relation to the former landholder's group and who often has special relationships to particular kinsmen within it. At the time, accordingly, the transfer is to the recipient as an individual\(^1\) and not to a patrilineal group. After the passing of a generation however it will come to be regarded as part of the heritable territory of his agnates.

Moreover, there may be no immediate change in the use of the land involved and the extent of the rights being exercised may not be clarified for some time. In several cases we noted that a balance was eventually struck in dividing the land between claimants who were co-resident but distantly related patriarchin of the deceased rightholder and those who were co-resident non-agnates.

Unfortunately, since our survey was short, we could gather little significant evidence of any disputes which may arise between parties with conflicting interest in such land. Our data include on the one hand instances where a transfer of rights still within memory has been confirmed over time and on the other the stated intentions of members of landholding groups as to the transmission of their rights.

Since the blocks involved are small and the fragmentation and interpenetration of the holdings of patrilineal groups is extensive, there is little concern for the maintenance of the continuity of the territory of these groups.\(^2\)

These transfers which are prompted by individual needs and demographic changes lend flexibility over time in the distribution of land which is a comparatively scarce resource. Population pressure has not resulted in greater conformity to the ideal system of patrilineal inheritance of available land.

\(^{(ii)}\) Orokaiva and Chimbu land holding and residence compared. We maintain that our account of the mountain Orokaiva shows not only the underlying contrast, in some respects, but also the significant characteristics in common with the Chimbu so that it

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\(^1\) But in some cases a clear identification of the recipient may be arbitrary - e.g., to name him as either an affine or else a cognatic kinsman of the original holder is sometimes rather inaccurate, if the kin of these categories are father and son (see Appendix E, p.111).

\(^2\) See Brookfield and Brown 1963:133.
is appropriate to argue for the relevance of the hypothesis of Brown and Brookfield (Brookfield and Brown 1963:176-7; Brown and Brookfield 1959:74-5) concerning the allocation of the land of Chimbu descent groups and the incorporation of non-agnates. They note that among the patrilineal Mae Enga the proportion of non-agnates allowed to reside on and use land in clan territory has been shown to decrease with an increase in population (Meggitt 1958:264) whereas this correlation does not hold for the territory occupied by the Chimbu clan.

In explanation they cite the facts that in Chimbu the major political-territorial unit, the tribe, has a larger membership than the Enga unit and contains not one but several exogamous clans. Political and ceremonial functions are concentrated in the exogamous Enga clan, which has sharply defined territorial boundaries. Only in Chimbu can land needs be easily accommodated in the political unit by means of land transfers between individual kin and affines in neighbouring clans, and it is significant that individual grants are more common means of redistributing land than among the Enga.

We will focus discussion of our evidence by proposing as a reasonable correlate of the largest Chimbu territorial and political unit the Orokaiva district, on the grounds that it was a territorially distinct unit within the tribe.¹

The first premises assumed are that the scale of difference between Chimbus or Enga and the mountain Orokaiva in respect of pressure on productive land occupied by the heavy local concentrations of populations (e.g., in Orokaiva districts) is not of significance here; and that the characteristic method² of ensuring equitable distribution in both the Chimbu and Orokaiva landholding systems is by frequent transfers effected through interpersonal ties.

Moreover, several differences between the 2 societies should be noted:

(1) the district in our comparison may have included an estimated 1,000 persons as against 4,000 in some Chimbu tribes;

(2) unlike Chimbu there were no large-scale peace-time activities or ceremonial in which either the Orokaiva tribe or district emerged as a solidary unit (Brown and Brookfield 1959:5, 45 ff.);

¹ We could have chosen the tribe, the inclusive effective political unit, without necessarily invalidating our comparison.

² Though not the only important method.
(3) the district had a compact territory (unlike the tribe) but its members were not all bound in mutual support in attack and defence, as were tribesmen in Chimbu where the motives of war and alliance and the territorial results of defeat were different;

(4) the Orokaiva clans which were scattered, often through several districts, did not have a single territorial focus and were radically different from a Chimbu clan; the latter is much more localized in a relatively continuous territory, may include 800 persons, preserves an internal solidarity and an opposition to others, and is probably the most stable social unit with its distinctive territorial and exogamic features. Clearly even a branch of an Orokaiva clan, which is the only group corresponding in significant respects, was only a fraction of the size, followed quite different settlement practices and, it seems, has long been non-exogamous (see Brown and Brookfield 1959:51, 55, 74; Brookfield and Brown 1963:11, 94, 98).

In the present study an adequate discussion of the hypothesis requires a demonstration that the same variables isolated in the analysis of the Highlands societies can be observed among the mountain Orokaiva. It is possible to state in terms relevant to the Orokaiva context the central issues involved in the accommodation or incorporation of non-agnates in patrilineal territorial groups and the function of the complex of interpersonal ties linking groups in the local community and in the political unit. Much of our earlier discussion has dealt with residence and local organization and we will not elaborate on the obvious points of contrast in patterns of settlement or territorial organization between these Orokaiva and the Chimbu (or Enga, etc.).

Over and above these differences there is in the principles of organization of the local communities of the 2 peoples an essential similarity which enables us to argue that in a sense the largest political and territorial units in neither society often include 'descent groups as distinct territorial units. Local units are often composed of parts of several descent groups, and descent groups are scattered in several localities' (Brookfield and Brown 1963:94; also Brown 1962:68). A further principle directly applicable in analysing the Orokaiva District is expressed in the assertion of a high correlation between proximity of clans and frequency of intermarriage [which] brings about a high proportion of ties of kinship and affinity between neighbouring clans.... Territorial distinctiveness
breaks down between [these] clans with land loans, gifts and membership changes....

(Brookfield and Brown 1963:158)

Both peoples combine patrilineal descent and inheritance with a form of high residential mobility and flexible group affiliation. Within the tribe there is little difference between relationships with affines and relationships with kin in terms of ease of contact, friendliness and mutual assistance; within the local community containing members of several descent groups a solidarity is created by the characteristic multiplication of individual affinal and matrilateral relationships (see Brown and Brookfield 1959:54-6; Brown 1962:68; Brookfield and Brown 1963:78, 129, 132; Watson, ed. 1964:345-8, 352-5).

Individuality in land control is reinforced in both societies by the absence of formal inherited positions of leadership and a pattern of interpenetrating territories is caused by processes of individual acquisition and retention (see Brookfield and Brown 1963:141, 156).
The cash economy

a. Income and expenditure

Data collected from each household on its income and expenditure for 1962 are set out in Tables 6 and 7. There were no written records available to check the amounts which informants claimed they had received or paid but detailed discussions were held on each specific item and inconsistencies were re-examined. An average of $34 had passed through each householder's hands and he could fairly easily recall details of the major transactions.

Per capita income was approximately $6.60 for the year while expenditure was $8.20. The reduction during the year in the amount of cash in hand is due to the fact that individuals who had employment which terminated late in 1961 or early 1962 drew on cash reserves during 1962.

Of a total income of $328 for the 12 households, 27 per cent was derived from paid employment, 24 per cent from the sale of primary produce and 24 per cent from marriage payments; a further 13 per cent was money received from kin employed in other districts of Papua and 12 per cent came from kinsmen in the neighbourhood (see Table 6).

Major items of expenditure were store purchases of food, clothing, household utensils and other equipment such as a shotgun and torches. These accounted for 62 per cent of total expenditure. In many instances the goods were distributed or shared among 2 or 3 households of the expanded family and sometimes more widely than this. Some householders shared the receipts of large bride price with other kin during the year but no one had had to contribute to bride price payments on behalf of kin. Of $410 paid out by the 12 householders in this period 22 per cent

Figures given in this section are corrected to the last digit given.
was in recognition of kinship obligations including bride price and gifts while 49 per cent of income was derived from these sources.

Gambling does not appear to be common within the village but intervillage visits are not infrequently arranged for this purpose. Few men in the sample claimed any significant winnings or losses for the year but during our stay some men, in one evening's gambling, lost $22 to members of another village who had already won $10 from them in 1962.

Nine of the 12 householders were holding personal savings at the time of our survey; in 3 instances where men had formerly been wage-earners for some time they had opened Savings Bank accounts which they retained.

A son's wife living with 1 householder had received some money from her kinsmen and some from her husband who was absent in employment. The money had been banked but was not recorded in our survey.

Apart from $60 in savings certificates maturing in 1966 which are contributions to joint accounts (see Appendix B), the ratio of current savings ($10 per household) to annual income is 1:2.7. Savings had decreased by 40 per cent during 1962 but income also seems to have been considerably higher in the previous year.

In a sample of 13 men from a nearby area in 1951 Belshaw (1951:12) found that only slight withdrawals had been made from pass books issued about 2 years earlier under the War Damage Compensation scheme; almost no deposits had been made. The average account had a balance of £4 with a range from £1.17s. to £8.1s. The same people claimed to hold other cash in hand ranging from nil to £39 with an average of just under £10. A small part of this may have been cash payments made under the scheme. Refugees from the Mt Lamington eruption received other payments later from a relief fund. We could obtain no reliable information to account for any money received by members of our sample on either occasion.

The evidence is slight but a comparison of the 2 small samples suggests the possibility that with an increase over 10 years in the range of sources of income and in consumer demand, money is now circulating more freely in the area.

Shell and bone ornaments (hambo) and head-dresses (di) - made from feathers of the bird-of-paradise, mountain parrots, hornbills and cassowaries - known collectively as di hambo, are held by the people of Sivepe as a category of wealth, items in ceremonial presentations and as objects of display. In traditional Orokaiva society these are prestige tokens but seem never to have served as
Table 6
Income of 12 households

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount (nearest $)</th>
<th>Total</th>
<th>Household range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid work:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labouring</td>
<td>58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Councillor</td>
<td>30</td>
<td>88</td>
<td>0-32</td>
<td>8</td>
</tr>
<tr>
<td>Sale of primary produce:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetables and tree crops, etc.</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber</td>
<td>30</td>
<td>80</td>
<td>0-22</td>
<td>6</td>
</tr>
<tr>
<td>Social obligations:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bride price</td>
<td>78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gifts from local kin and affines</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gifts from absent kin and affines</td>
<td>44</td>
<td>160</td>
<td>0-42</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>328</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Savings at start of year:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td>198</td>
<td>0-62</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Contributions to joint accounts</td>
<td>60</td>
<td>0-12</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
Table 7

Expenditure by 12 households

<table>
<thead>
<tr>
<th>Items</th>
<th>Amount (nearest $)</th>
<th>Total</th>
<th>Household range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food and household</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utensils</td>
<td>28</td>
<td>166</td>
<td>0-40</td>
<td>14</td>
</tr>
<tr>
<td>Equipment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(including gun and cartridges)</td>
<td>90</td>
<td>90</td>
<td>0-56</td>
<td>8</td>
</tr>
<tr>
<td>Social obligations:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bride price and feast</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>contributions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other gifts</td>
<td>52</td>
<td>88</td>
<td>0-20</td>
<td>8</td>
</tr>
<tr>
<td>Miscellaneous:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares in O.C.G.S.*</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax (Council)</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gambling</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church donation</td>
<td>2</td>
<td>66</td>
<td>0-18</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>410</td>
<td></td>
<td>34</td>
</tr>
<tr>
<td>Current savings:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions to joint</td>
<td>60</td>
<td>88</td>
<td>0-12</td>
<td>5</td>
</tr>
<tr>
<td>accounts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Orokaiva Coffee Growers' Society, which sells $10 shares (see Crocombe and Hogbin 1963:95).
a standard of value. However, to some extent money seems to have taken over some of the functions of traditional valuables and in some situations one is exchanged for the other. In the past it was recognized that skill and initiative in hunting and trading were necessary to acquire di hambo but today, with safer communications and better hunting equipment, they are more easily obtained. People are willing to buy some of the more valuable items or some cheaper items of European manufacture which can be adapted to serve as a novel decoration.

Although they constituted the greater part of the goods changing hands on traditional ceremonial occasions, di hambo are evidently not now circulating rapidly. A little less than half of these valuables held by members of the sample had been inherited and nearly a quarter had been acquired by the owner by hunting or collecting.

A complete adjustment between the roles of money and of non-monetary valuables has not yet been made. They circulate in the same exchanges and both are considered essential; it may now be accepted practice that each should be contributed by or distributed amongst different categories of kin on these occasions. But the opinion was widely expressed that as people are increasingly demanding cash as a large part of bride price payments, the intrinsic value of these exchanges was correspondingly less.

Although money and traditional valuables are not freely interchangeable, we collected details of the prices paid for any items of di hambo which had been purchased by the sample, and by using these in conjunction with the unitary scale of value on which informants could readily place all items, we assessed the possible cash equivalent of non-monetary valuables acquired by the 12 households from various sources. This is set out in Table 8.

Table 8
Cash value and acquisition of hambo and di (§)

<table>
<thead>
<tr>
<th></th>
<th>Inherited</th>
<th>Purchased</th>
<th>Bride price or other exchange</th>
<th>Made or bought</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hambo</td>
<td>48.40</td>
<td>9.30</td>
<td>17.70</td>
<td>16.60</td>
<td>92.00</td>
</tr>
<tr>
<td>Di</td>
<td>17.60</td>
<td>4.50</td>
<td>6.50</td>
<td>15.40</td>
<td>44.00</td>
</tr>
<tr>
<td>Total</td>
<td>66.00</td>
<td>13.80</td>
<td>24.20</td>
<td>32.00</td>
<td>136.00</td>
</tr>
</tbody>
</table>

1 See Crocombe and Hogbin 1963:52.
2 These prices were very nearly the same as those recorded at Inonda (Crocombe and Hogbin 1963: Appendix B).
b. Employment

Ten people who are siblings or sons of the householders in the 2 subclans are absent from the village. Eight are employed in other districts of Papua as clerks, policemen or technicians. Two men, a single man and a widower, have left to work elsewhere in the district.

Five of the 10 absentees are the youngest sons in their families but their absence does not seem to be directly attributable to a heavy demand on their families' land resources. These who have left the district are people who had the advantage of local education facilities which were not available formerly and they hold semi-skilled positions which offer more prospects of permanent employment than most of the present householders had.

Only 5 adults in the sample, 2 men and 3 women, have had any formal education. One of the men attended school for 4 years, the other for only 1 year. Five of the 7 householders in the 45-65 age group were employed outside the district on European plantations for 2-3 years before the war, 3 of them as rubber tappers. These men served a total of 7 years as carriers during the war. Apart from the years of service as a paid village official or local government councillor only 2 of them have taken work since the war - 6 months each as casual labourers on a plantation near Popondetta. The 2 other householders of this age have never had paid work. The men between 25 and 35 years have spent an average of 7 years in employment outside the village as against the older men's 3 years.

The frequency and duration of the younger men's terms in employment are set out in Table 9.

Table 9

<table>
<thead>
<tr>
<th>Household No.</th>
<th>From date of first employment until birth of first child</th>
<th>Since birth of first child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total years in employment No. of jobs</td>
<td>Total years in employment No. of jobs</td>
</tr>
<tr>
<td>1. (e2J)</td>
<td>5  3.5  3</td>
<td>4  Nil  Nil</td>
</tr>
<tr>
<td>2. (d10J)</td>
<td>5  3  3</td>
<td>11  2.5  3*</td>
</tr>
<tr>
<td>3. (d11J)</td>
<td>13  9  4</td>
<td>No children**</td>
</tr>
<tr>
<td>4. (e5T)</td>
<td>10  8  5</td>
<td>6  1  2</td>
</tr>
<tr>
<td>5. (e1T)</td>
<td>4  3  2</td>
<td>14  6  7</td>
</tr>
</tbody>
</table>

*Householder took further employment soon after our survey.
**Householder had child by first wife but lives elsewhere; he is still employed.
<table>
<thead>
<tr>
<th>Age</th>
<th>House-</th>
<th>While resident of village</th>
<th>Within Northern District</th>
<th>In other districts</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>hold</td>
<td>Cr or Plantation</td>
<td>Un-</td>
<td>Planta-</td>
<td>Un-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vc*</td>
<td>skilled** Total</td>
<td>tion</td>
<td>skilled</td>
</tr>
<tr>
<td>50</td>
<td>1(d3J)</td>
<td>15</td>
<td>1</td>
<td>15</td>
<td>0.5</td>
</tr>
<tr>
<td>26</td>
<td>2(e2J)</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>48</td>
<td>3(d12J)</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>60</td>
<td>4(d2J)</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>32</td>
<td>5(d10J)</td>
<td>5#</td>
<td>5</td>
<td>5</td>
<td>1#</td>
</tr>
<tr>
<td>50</td>
<td>6(d6J)</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>3#</td>
</tr>
<tr>
<td>50</td>
<td>7(d4J)</td>
<td>11</td>
<td>1</td>
<td>11</td>
<td>2.5#</td>
</tr>
<tr>
<td>35</td>
<td>10(d15T)</td>
<td>11</td>
<td>1</td>
<td>11</td>
<td>0.5</td>
</tr>
<tr>
<td>55</td>
<td>12(d1T)</td>
<td>21</td>
<td>9</td>
<td>30</td>
<td>8</td>
</tr>
</tbody>
</table>

*Councilor (Local Government) or Village Constable.

**Excluding unskilled work on plantations.

***Pre-war or during war.

#Including work as rubber tappers.
The older men in the sample were restricted in employment opportunities to indentured labour usually outside the Northern District. The young men on the other hand readily leave village life temporarily to take casual work on European plantations in the district where there is now a greater demand for labour. They may leave their wives and children to be provided for in the meantime by the other side of the family or may have them accompany them to the area where they are employed. These absences interrupt the routine of subsistence activities for the family but the possibility of this course of action is left open by local environmental conditions and the virtual independence of the nuclear family as a gardening unit. There is little seasonal variability and this small group is free to resume any phase of garden activities when and where it chooses.

Among the 5 able-bodied and active men of the senior group there seems to be no consistent demand for cash which cannot be met by gifts from their kin or affines and they have sought temporary employment only as a means of meeting some immediate financial requirements. With the exception of the salaried local government councillor the older men received 78 per cent of their total year's income of $88 as gifts.

By taking employment more frequently the younger men acquire income which they gradually spend on the range of consumer goods available locally as well as on kinship obligations. However, not all income is spent in this way and, as Belshaw found in this area (1951:11) there is both some capital available for investment and a willingness to contribute money to funds for this purpose if they can be organized.

The men who have spent most years in paid employment also supplement their income by producing rubber and coffee, sometimes with the assistance of their fathers. However, no one has invested heavily in these crops and they provided only $52 or 15.8 per cent of the sample's income for the year.

c. Commercial agriculture

(i) Coffee. Four householders in the sample have individual coffee plots with a total of 503\(^1\) trees on 1 acre of land. One of these plots is a section of a former village or 'company' coffee plot. About the time of the opening of the Higaturu Council in 1956 members of Jegase, Timumu and other groups in Sivepe and Binduta villages participated in the planting of 2 'company'

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\(^1\) The agricultural census of 1964 recorded 1,100 trees held by 5 growers in Sivepe as a whole (162 were not yet 6 years old and 491 of the trees had been planted more than 10 years before).
coffee gardens.\footnote{In August 1955 an area 30' x 40' was reported to have been cleared and planted with shade under the direction of the Village Constable.} About 320 trees were planted on the Sivepe plot. It was not government policy to encourage community gardens, but those who made the garden were under the impression that this was the wish of the officer who suggested that the people in the villages plant coffee.

Clearing of this 'company' garden was carried out jointly by members of all Sivepe clan branches. A part of the land they used belonged to a Timumu lineage and the rest to a Jegase lineage. While the trees were maturing an agricultural extension patrol told them to stop working the gardens jointly and to make new individual gardens. In 1957 a Cadet Patrol Officer gave the same advice explaining that disputes would otherwise occur about the distribution of income from coffee sales.

It was decided to divide the Sivepe coffee along pre-existing lineage boundaries; one part was taken by a man of Hahejopa lineage of Timumu clan, the other by a Seho man (e3S) who is the husband of the only surviving member of the Jegase lineage, Sesewopa. Even after this had been done these men claim to have shared the small amount of money from the first sales with the other planters.

Since the division the Timumu man has indicated that he claims the land as far as a creek which formed the outer boundary of the village plot on the Seho man's side, i.e., that he believes all the coffee was planted on his land. Even though the Seho man applied in 1960 to have his section on his wife's land registered with the Higaturu Council, he now intends to give it to the Timumu man and to plant new coffee on his own land.

The other 3 gardens were planted on a household basis in 1957.

Two men from other clans have planted coffee on the land of Jegase men in Sivepe. One garden was made about 5 years ago by a Seho man from Sivepe (e4S) on the land to which his father had planting rights. The land had earlier been held by a man who was the wife's brother and sister's husband of the present planter's father. The holder of the residual rights passed them to his classificatory sister's son from Berekipa lineage who some years ago used the Seho man's land for subsistence gardens.

The other garden is on the land of a Bebehupa man and was made by his father's sister's son, an Usohu man from Binduta. The Usohu man was given rights to plant sago and coffee because he had been named after the landholder's father's father.
At the time of our survey no one who had a coffee garden had taken any steps to grow cocoa although one man claimed that as a result of a recent visit by an agricultural extension patrol he now proposes to interplant cocoa with the rubber which he had planted, and another who already has coffee claims that he will plant cocoa in one of his subsistence gardens when it is finished. One man was given cocoa seedlings by some kinsmen but he has made no preparations for transplanting them from the nursery.

Only 2 men have made even minor extensions to their original small coffee gardens. In 1961 one of them added about another 70 Leucaena shade trees. The other has extended his coffee plot with 60 young shade trees.

Lowlands coffee (Robusta coffee) is grown and is well suited by the soils and climate. All planters have access to the dark friable loams (mume) of the area (but 1 plot planted on an abandoned subsistence garden became waterlogged). Crotalaria is used as a shade tree but Leucaena glauca is now established in mature gardens. The shade is planted in lines and the sites for the coffee trees are staked out. Some planters, with assistance from agricultural fieldworkers, arranged these on about a 10 foot triangle but the density of trees varies considerably from one plot to another.

Coffee seeds are bought from the agricultural station or are sometimes given by a neighbouring planter. When the shade is established, they are planted in a nursery sheltered with bush materials. The ground is turned with a bush knife and the seeds covered with a layer of soil. Until transplanting an occasional weeding is all the further attention they receive. Seedlings which have grown to a height of about 2 feet are taken to the shaded lines of stakes and transplanted. No root pruning or preparatory holing of tree sites is carried out. The growers claim a high percentage of strikes from the seedlings but since few of the recommended transplanting procedures are followed the vigor and yields of the trees are probably reduced.2

For the first few months the ground near the seedlings is weeded and later weeds are cut when growth becomes rank. In theory the owners prune the plots about once a year wherever shoots are too long but the incidence of tall trees and suckering shows that more care could be taken in this aspect of husbandry. Arch-pruning (agobiada) has not been tried on any of the sample

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1 Extension officers usually do not encourage the planting of cocoa instead of coffee in this area.
plots but agricultural officers intended to launch a campaign in the district in 1963 to induce a wider use of this method which could considerably improve the present disappointing yields.

There is a definite seasonality in harvesting; production in the area reaches a peak in the months of the dry season and falls off after August. Growers are careful to pick only ripe cherries. They take the cherries in a bag to the river, pulp them by trampling the bag and then wash them. The beans are placed in hollowed logs or 'boats', covered with water and fermented for about 36 hours. They are then washed and spread in the sun to dry.

The resultant parchment coffee is carried to Saiho where the Orokaiva Coffee Growers' Society has a buying centre.

Not all receipts for sales of coffee from the sample plots had been kept but the 4 producers stated that their sales of parchment coffee had brought them a total of £11 in 1962. With the prices around 1 shilling per pound this would approximate the income expected from 500 trees bearing a little less than half a pound annually.

(ii) Rubber. We shall conclude our descriptive account of commercial agriculture with a historical resume of the overall organization of the production and marketing of the rubber which for 40 or 50 years has been grown at Sivepe and throughout most of this tribal territory. This account seems worthy of inclusion here, not so much as a report on one of the very few areas in the Territory where rubber is produced from trees owned by indigenes, but as a sketch of part of a long and chequered experience of the cash economy which the mountain Orokaiva have had as primary producers.

Members of the clans now represented in Sivepe and Binduta participated in the planting of 4 small stands of rubber (*Hevea brasiliensis*) near their villages in the years following World War I. These plots, known as Binduta, Sarua, Korinasus and Pusahambo, ranged from less than half an acre to about 3 acres in area.

The Sivepe neighbourhood at the time was included in the Kokoda District, a part of the Kumusi Division. By 1918, 8,000 rubber plants had been distributed to villages in the district which was considered too far inland for worthwhile copra production. In 1920 the government plantation, established at Kokoda in 1908, had 12,000 rubber trees on its 125 acres, and villages in 27 sub-districts had a total of 5,000 trees planted in stands of their own. Among these were the 4 plots near Sivepe. The growth of the trees was said to be vigorous. By 1921, 7,000 rubber trees and 4,900 coconuts had been planted throughout the district and by 1922 the numbers had increased to 8,134 and 6,887. In 1924
planting was still being encouraged. The trees planted in the
district were for long the only Papuan-owned rubber plots.

These trees had been planted under Native Regulation No.121,
first passed in 1903 but not enforced in this division until the
first world war. The legislation states that 'it is a good thing
to plant coconuts and other useful fruits and trees.... The
Magistrate shall fix the number of trees or the area of land, as
the case may be, that the able-bodied men of each district shall
plant' (Native Regulation Ordinance 1908-30).

We could not determine how much compulsion was involved in
establishing each of these 'plantations' but in 1921 the Assistant
Resident Magistrate reported that planting in the district needed
more supervision than one officer could provide and in 1922 the
Lieutenant-Governor said that the threat of force was necessary
to ensure the success of the policy of agricultural expansion
under the regulation (Territory of Papua 1921-2). A particular
reason for resistance in this district may have been the official
priority given to rubber whereas it was reported 'the natives
prefer coconuts due to their food value' (Territory of Papua
1920-1). A person who refused to plant was liable to a fine of
5 shillings or 6 weeks' imprisonment or to 3 months' imprisonment
for a second offence.

The people of 3 villages, Pusahambo, Euru and Asina, were
directed to co-operate in the planting of one of the stands near
Sivepe. After the people of Asina had declined to provide land
it was agreed that the plantation should be established on a
parcel already partly cleared near Pusahambo. Part of this land
belongs to Timumu people and part to Jegase; and although 1 Timumu
lineage sometimes assert that they also hold residual rights in
the Jegase section of the land, they appear never to have questioned
the rights of the members of Jegase and Seho clan branches to the
trees.

The only other plantation to which any member of the sample has
rights is Korinasusu. This also is on land divided between members
of 2 different clans, Jegase (Bebehupa lineage) and Usohu, who
disputed the exact boundary when we enquired about it, but have
generally been able to agree on the rights to tap the trees.

It seems that the rubber project in the district was designed
so that, from the start, the owners of the rubber should themselves
handle much of the production and processing. They were encouraged
to plant lime trees 'so that they can coagulate latex with lime-
juice and smoke a fair sheet of rubber for market' (Territory of
Papua 1920-1). However, no facilities for the manufacture or
processing of latex or rubber were introduced. The people claim
that after the planting regulation had been enforced, the trees
stood untouched for about 20 years. In 1944 Humphries (1944:4) reported that 'the trees grew to maturity with very little attention from the natives and today they are being tapped for the first time'.

In 1941 an agreement under the Transactions with Natives Ordinance (1893-1935) was made between a European planter recently arrived in the area and the villages with rubber stands, whereby he obtained exclusive rights to tap, collect and dispose of the produce of all the trees, while from 6 per cent to 12 per cent (according to ruling market prices) of the gross sum obtained by the lessee was to be paid to the owners every 6 months; in general this meant that the owners received 1 penny to 3 pence per pound. The contract was to extend for 5 years and the lessee was to have the option of renewing it for a further period of 5 years.

The arrangement became effective in 1941 but was interrupted by the Japanese invasion of the Northern District. In 1943 A.N.G.A.U.1 authorized the lessee to return to restart production from the trees. Man (1954:35) says that during 1944, under the supervision of the rubber division of the Production Control Board, tapping of some 250 acres of those smallholdings was organized. During 1945 production was over one hundred thousand pounds dry rubber, indicating average yields of about four hundred pounds per acre.

Various estimates have been made over the last 20 years as to the size and number of the rubber stands in the area. Mann's figure of 250 acres contrasts with the lessee's estimate of 110 acres,2 and with Humphries' assessment of about 80 acres. There were 95 stands with a total of 7,721 trees listed in the 1941 agreement but during 1943-5 a further 42 stands were added so that most of the available stands were then included in the scheme.3 In 1951 Belshaw claimed that there were roughly 6,000 rubber trees in the 'Periho' tribal area within what was formerly the Kokoda District and another estimate about the same time put the number of trees in this wider area at 10,000. The annual report of 1959 stated that 26,000 trees 'in the Awala area' were tappable. A

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1 The Australian New Guinea Administrative Unit.
2 Assuming this estimate and the figure of over 100,000 pounds for 1945 production to be accurate, we must conclude that the average yields were more than twice those given by Mann.
3 It was reported by patrol staff that 'nearly all' the rubber stands were being worked from Awala in August-September 1943.
recent agricultural census listed 55 stands with 13,700 trees in the Saiho Census Division (which coincides roughly with the 'Periho' area) and another 3,700 trees in the Sangara Census Division. However, according to the 1964 census there were 14 Saiho villages with stands, carrying 10,000 rubber trees altogether, 4,500 of them less than 6 years old and another 3,500 less than 10 years old. There were also 46 individually-held plots recorded with 8,000 trees, all less than 10 years old. The total number of rubber trees on village-stands in the Saiho, Sangara, and Togahau Census Division was put at almost 26,000.

The agreement between the lessee and the villagers was modified in 2 ways after the war. When the scheme was resumed in 1943 the Administration decided that in order to facilitate the handling of money, the royalty to be paid to the owners should be changed from a percentage basis to a flat rate of a shilling twice a year per tree tapped; and the royalties set aside every 12 months by the lessee were sometimes withheld by the District Office so that the people did not receive payment for more than 18 months, although the contract provided for half-yearly payments.

Until 1946 local villagers were employed by the lessee to tap their stands. A tapper would work in his own area but his task necessarily included some stands belonging to nearby villages other than his own. This caused some misunderstanding at first but the owner's suspicions were eventually allayed.

The Village Constables had been responsible for seeing that the magistrate's instructions were obeyed when the plantations were established but apparently the Village Councillor in some cases assumed control over the distribution of the income among the 'owners', who were listed in 1 schedule of the agreement, although the money was shared under the supervision of a government official. One man recalled that 1 delayed payment of £114 was made for rubber from a number of stands owned by members of his village; he claims that the money was shared by more men than those named in the agreement drawn up several years before.

The lessee believes that the stage at which contract arrangements were conducted to the best effect and greatest satisfaction of the villagers was the period 1943-6 when he arranged to employ some of them as paid tappers. 3

1 These would include self-sown trees.
2 There is no evidence to support Belshaw's assertion (1951:13) that the owners were at one time receiving a royalty of only 6 pence per tree.
3 In September 1943 government officers reported that there was a good daily yield as the trees were in good condition.
A new marketing scheme was devised after 1946. Any villagers who wished to tap their stands were provided with a tapping gouge and spout, anti-coagulate, treeseal and latex bucket by the same European planter. The tapper brought latex to the factory, was given a receipt and paid at the end of the week according to the weight of the dry rubber of the latex brought in. This system brought about a decline in tapping standards resulting in lower net cash returns for the villagers and seems to have been part of the background to their lack of enthusiasm for the lease noted by patrol staff in 1948.

In mid-1949 a report from the Popondetta District Office stated that all privately owned rubber areas were on the verge of closing down; production costs were high and market prices had fallen considerably. The advent of the 'price-boom' later, caused by the Korean war, coincided with the eruption of Mt Lamington and the evacuation of the villages, and consequent cessation of production.

By 1954 when attempts to organize systematic production were again resumed the market price had dropped to 5/6 d. per pound; the planter proposed to issue daily chits for latex bought and to pay cash at the end of every week. He offered the villagers, and the Administration agreed to, a price of a shilling per pound dry rubber content for all grades of rubber accepted. A system was organized whereby he provided for the transportation of latex by road from collecting points. He arranged for the tapping of alternate 'sections' every 4 to 5 weeks; the time interval was dependent upon the density of the latex offered. Kongohambo was the collecting point for one 'section' consisting of stands between Kendata and Binduta; Koropa ta was the collecting point for another section. Only 70 villages were still supplying latex, mainly because of the accessibility. A report on native agriculture in January 1956 noted that villagers had sold 3,600 lb. (dry weight) of rubber for £180 in the previous 6 months. This was produced from only 10 stands 'near Awala' and it was felt that other existing stands would probably not be brought into production until roads were improved. By July 1958 the number of stands had not increased but 6,000 lb. (dry weight) of rubber was produced and sold for £300 in 5 months.

In 1958 the villagers ceased to sell latex and started producing coagulum because the planter ceased to provide transport: the

1 The report seems inaccurate where it says that the fall in price led the lessee to terminate production. In fact production continued.

2 Some villagers are under the impression that the price they were paid for their latex was lower when it was collected by the planter.
replacement of his vehicle being necessary but uneconomic. By 1958 independent production from his own plantation was increasing and, despite periodic renewal of enthusiasm for rubber,¹ the number of village tapping stands had dwindled,² due partly, in the planter's view, to the movement of increasing numbers of able men from their villages to take paid employment. Already, in 1955, it had been noted that in the areas near Awala and Sangara there was a serious shortage of manpower for work in the villages due to the absence of men employed as wage-earners.

In 1958 the people still interested in tapping adopted the planter's plan that, instead of selling latex at 1 shilling per pound dry weight of rubber as before, they should coagulate their latex themselves and carry it to the factory for sale at 6 pence per pound of coagulum. However if members of a distant village had a lot of coagulum for sale, they might still ask the planter to send a vehicle to collect it without charge.

Bi-annual 'reports on native agriculture' put production from village stands for the year ending 30 June 1959 at 7,000 lb. (dry weight) and the price at 1 shilling per pound. In November of the same year it was estimated that rubber was produced from about 50 acres of village stands. By December another 2,750 lb. had been produced and the European planter suggested that declining production was due to the attraction of labour to the new Sangara European plantations and to heavy demands on villagers' time made by Administration departments and the mission. Coffee and cocoa planting was said to be increasing at the expense of interest in tapping rubber. In the first 6 months of 1960, however, 4,700 lb. (dry weight) was produced; by mid-1964 interest had increased further³ and coagulum with an estimated dry rubber content of 1,500 lb. per year was being produced. In 1962 the price offered by the planter for coagulum had fallen from 6 pence to 5½ pence per pound.

It is not clear whether the individuals who offered themselves as tappers after 1946 had been conceded this or any other right by the rest of the villagers. Responsibility for distributing

¹ In the first 6 months of 1955 production from 7 plots of rubber 'in the Sasembata area' rose by 60 per cent to 8,000 lb. dry weight (DS-29-855).
² The planter puts the number of villages involved at this time at about 30. The number participating at present is still about the same.
³ Interest was aroused by the Ombisusu rubber project at this time (see p.102).
the money from latex sales fell this time to the tappers. Either because tappers, village officials and 'owners' had not reached agreement on a method of sharing the money or because they expected that any distribution needed to be supervised as before, tappers from some villages asked the planter to advise them on the distribution of the income. On one occasion many villagers retained their income pending the planter's return after an absence of 18 months (during which time the rate of latex-buying fell to a very low level). The cases where arbitration was sought often involved £20 or £30 and sometimes £80; in most cases an agreement was reached to share the proceeds equally between the tapper and the owners, who in turn took equal shares. One sanction confronting a number of tappers who were reluctant to divide the money was the prospect that the latex they produced would not be bought if they failed to co-operate.

When the new village of Sivepe was established after the eruption the Village Constable who had worked on rubber estates at Sgeri in the Central District before the war organized the resumption of work on the Pusahambo stand and taught some of the younger men the rudiments of tapping. A roster system which is still in operation was introduced at about that time. Except for residents not descended from the original planters and of 2 former residents of Binduta, who continue to share the income from the Korinasusu stand with Binduta tappers, each villager in Sivepe with any knowledge of tapping is given exclusive rights to the produce from the Pusahambo stand for 1 or 2 months.

No one has power to direct the long-term operation of the scheme and there are no formal arrangements governing the exact period for which each man may tap the trees or determining the sequence of tappers more than 2 or 3 months ahead. Periodic discussion seems to ensure that each tapper has satisfactory access to the trees.

The present system is not conducive to the adoption of measures for field maintenance of the rubber stand or for the preservation of tapping panels. Each man works to produce as much as possible in a short time. After that he has no further interest in the stand for perhaps 18 months when he resumes tapping. Accordingly nobody is inclined to accept responsibility for the maintenance of the stand.

Few tappers work systematically; many trees on the periphery of the stand are bypassed for long periods while those towards the

1 Like many other stands in the subdistrict Korinasusu has not been tapped regularly in recent years. The planter finds that production from stands still being tapped reaches the peak about the time annual council taxes are due.
centre may be overtapped. No attempt is made to extend the area under rubber or to replace existing trees. Self-sown seedlings are allowed to struggle under heavy shading of parent trees and surrounding bush. Crowding leads to an accumulation of trash which presents a disease hazard.

A meeting of the local council recently adopted the proposal of a European planter that he should supply labour to clean the village rubber stands in the area in return for the scrap rubber collected in the process but the villages concerned refused to assent to the agreement.

In order to produce the coagulum the Sivepe tappers pour latex into hollowed-out sections of logs on the site of the stand and leave it to undergo natural coagulation but some other villages coagulate latex in the buckets they had received from the European planter. The blocks obtained in this way are washed in the river before being sold at the factory 3 miles away. Villagers claimed that coagulum produced from the Pusahambo stand in approximately 12 months before our survey was sold for £35, an average of £5.16.8 for each of the 6 tappers.¹ This figure was checked against records of receipts issued and indicates a yearly yield from the 2.4 acre stand at Pusahambo of 320-40 lb. per acre, despite the age of the stand and condition of the tapping panels.²

This compares with the Territory average of 400 lb. per acre which is the same as the estimated yield for the village rubber when the trees were worked for the first time and the tapping standard was good. Neighbouring European planters achieve yields of up to 800 lb. per acre with similar clonal lines and expect 2,000 lb. per acre from newly-introduced high-yielding trees. The first yields from a nearby Orokaiva smallholder's scheme in 1964 indicated a maximum yield of 500 lb. per acre with the old clonal lines.

¹ In 1964 Department of Agriculture staff reported that 1 month's tapping by a villager selling coagulum to the European might return £2 or £3, and that the tappers thought this amount too small.
² An officer of the Department of Agriculture who inspected the area in 1962 suggested that most of the trees being tapped were self-sown.
Chapter 5

The land and economic development

a. Shifting cultivation and residential stability

Under the present system of horticulture the amount of land surplus to current subsistence needs is small and imposes limits to expansion of commercial agriculture.

Williams (1928:154) regards the system of subsistence cultivation as wasteful because it requires such a large area per person. However, the practice of shifting gardens frequently and for short periods on scattered plots does give maximum yields and maintains soil fertility. Brookfield and Brown (1963:166) point out that no successful alternative to land rotation has yet been proven for subsistence agriculture in the tropics. Population pressure and soil fertility are not sufficiently serious problems on the slopes of Mt Lamington to warrant the measures which Fisk (1962) recommends in other circumstances.

Keesing (see Chapter 3, Section e) argued that the rotation of land adversely affected social stability. But the settlement pattern which developed after the emergency shows that there is no necessary connection between dispersed settlement and either the local population density or the method of bush fallow rotation. Some very large villages formed after the eruption (e.g., Soroputa and Kiorota) retained large groups of immigrants who owned no gardening lands near at hand. The present high rate of mobility between other villages, most of which are much larger than before, is not closely correlated with the shifting of garden sites. Among the Chimbu, by contrast, land use is more intensive, but frequent shifts of residence between scattered hamlets are related mainly to gardening needs.

With the introduction of cash cropping the Chimbu pattern of settlement is becoming more permanent (Brookfield and Brown 1963:98). There is little significant evidence either to support or oppose our belief that the planting of individual coffee plots since the mid-1950s has not been associated with a drop in
individual mobility among the mountain Orokaiva. We especially
doubt the generalization that the introduction of tree crops
induces the fragmentation of villages into small 'bush settlements'
which many observers thought would be established on the site of
the gardens. When Agriculture staff first advocated individual
cash-cropping among the Orokaiva, the policy was opposed by mission
staff who feared that the villages would disintegrate as each
grower moved to live near his coffee garden.

This has not in fact eventuated although there has been some
movement from large temporary post-eruption settlements like the
Isivita villages when immigrants returned to their own land to
plant coffee or cocoa.

b. Developments related to land tenure

Disparities between the areas in which individuals and groups
held proprietary rights are overcome by individuals acquiring
rights to other land through interpersonal relationships. Cash
cropping by individuals does not seem to have reduced the flexibili-
ity of exchanges and transmission of land rights. Three of the
5 persons who planted coffee on land held by members of our sample
are not members of the group holding proprietary rights. Simi-
larly, of 28 people who applied to the local government council
for registered areas of cash crop land on 7 blocks held by the
sample, 8 were not members of the rightholding group.¹

The need for such transfers is increased by requests from
extension officers and the council to locate coffee gardens
contiguously to facilitate pest control, extension services and
surveying.

Norton (1962:12) argues that new practices in the transmission
of land rights have emerged with the expansion of coffee growing
since 1956. Our evidence, however, shows that the significant
change has been rather the introduction of a new method of cash
cropping. The only experience the Orokaiva had of commercial
agriculture previously was of large-scale production on planta-
tions owned or directed by Europeans. They had not entertained
the possibility of production on an individual basis.²

Norton expresses a view widely held among government officers³
that the introduction of perennial crops is seen by members of the

¹ Four of the other 20 applications were made on behalf of members
absent in employment and 2 on behalf of boys.
³ See Minutes of Higaturu Native Local Government Council Meetings.
landholding groups such as the clan to require adjustments in the way they exercise their land rights. He feels that persons with authority over the use of a clan's land seldom interfere when it is used for food gardens, but exercise their prerogatives more strictly when permanent cultivation is proposed. He therefore considers that registration clearly defines individual rights for the first time and that this is done by public decision of the whole clan.

We would maintain that the clear differentiation of prescriptive rights of individuals and small groups in Sivepe owes nothing to cash crops or allocations by land controllers or the whole clan. The function of the registration scheme is to guarantee these rights for cash crop land and to provide facilities for transfer which are no less flexible than those which already exist in the area.

Meek (1949:285) points out that new methods of establishing security of tenure should follow the current local tenure practices because 'the manner of recording rights necessarily affects the form that landholding may take'.

In mid-1960 39 people with interests in Sivepe land lodged applications with a Cadet Patrol Officer for registration of land usage rights in 8 blocks of land (perhaps 10 acres). Under the Higaturu Council Registration scheme the legality of the registration was uncertain. The Orokaiva were not aware of this and accepted registration as binding. Many people thought that the application forms they received and filled out constituted registration (which they did not). Late in 1963 an officer conducting land registration visited the village but the people claimed that he would not register their blocks because he was dissatisfied with the lack of preparatory boundary clearing. The type of information sought by officials in completing the application forms reflects assumptions about clan ownership which do not fit the actual tenure situation.

If the holder of prescriptive rights should wish either to have them confirmed as permanent rights or to transfer them to one of his kinsfolk any official recognition of an artificially large group as holders of residual rights could provide a precedent for influential persons in that group to extend their sectional interests to include land held by others in the group.

Similarly encroachment could occur if members of a group assumed to hold rights jointly are allocated permanent rights without attention being given to the interests of persons who in fact hold the land in severalty.

The distribution of power would be realigned with a stereotype, transfers would be impeded and litigation increased unless the
procedures for determining and recording titles were amenable to local regulation and adjustment by the institution conducting the registration. This does not mean that more than one type of right need be guaranteed or that security of title is unimportant.

A registration scheme would function best as a mechanism for resolving uncertainties over landrights in other areas where it could enhance the productivity of large blocks of land by rationalizing the overlapping claims of members of 2 or more clans. Due to the extensive fragmentation and subdivision of group territories around Sivepe and the restrictions which have been imposed on the scale and range of the past movements of groups, there were no apparent conflicts in the locality over rights at the clan branch level. The current incidence of interpersonal disputes affected only a few small parcels and did not seem to be a persistent obstacle to productivity.

The question is now of reduced significance as the Higaturu Council scheme has been superseded by more comprehensive provisions for land tenure conversion. Nevertheless, registration of permanent individual rights, whether on a person's own land or another's, is desirable in order to preclude disputes which might otherwise arise once the value of the land is increased by the introduction of permanent improvements in the form of cash crops.

We contend that it is legitimate to extrapolate our local information by assuming extensive social and cultural uniformity among the mountain Orokaiva. Analysis of tenure practices and territorial organization of Sivepe groups shows that in important respects the landholding systems resemble those characteristic of certain closely-settled unilineal communities of which Chimbu might be considered the type. We therefore maintain that modern mountain Orokaiva land tenure and local organization differ considerably from the model introduced in outline by Williams in his original monographs (1925, 1928, 1930).

Finally, we wish to indicate the general significance of the type of council scheme for land registration discussed here, and this is best done by quoting at length from the report of the Mission from the International Bank. It claimed (1964:33) that solutions to land tenure problems in Papua-New Guinea would be found more readily if greater responsibility were placed 'on the native people, including the local Government Councils, to work out their own solution adapted to varying circumstances'.

This would not mean the recording of title under standard European procedures and would 'require comparative flexibility on the part of the credit organization designed to assist and stimulate native production. On this approach there could be much delegation of responsibility' among government staff and 'much
more active collaboration with local groups and leaders' (ibid:172). The report discusses the Land Tenure (Conversion) Ordinance, which became law in 1964, noting (ibid:171) that the legislation requires that the Administration satisfy the preliminary conditions of 'complete inquiry about customary rights and agreement of all the holders of customary rights' before it can conduct the surveys and convert these rights to individual registered title free from any customary limitations.

The experience of the Native Lands Commission in surveying land and recording customary rights 'indicates that progress in the application of this legislation will almost certainly be slow' - too slow, the mission believes, for much progress to be made in implementing its recommendations for economic development (ibid.).

It recommends 'a more flexible approach' to the obstacles to change, posed by the traditional social matrix of land customs. The Administration could well 'encourage native groups to work out their own solution to obtaining individual ownership or control of the land within native customs. The local government councils could make a useful contribution to this difficult problem.'

c. Economic incentives

Mann (1954) concluded his report on the area by stating that the agricultural possibilities of rubber were very good but that it seems little short of a tragedy that the well-intentioned efforts to introduce it as a native culture in this area have come so close to complete failure, whilst the trees remain as a source of discouragement to further development of what may prove to be a worthwhile venture for the landowners of the district.

The policy of establishing rubber stands under the Native Regulation was well-intentioned but, as Humphries points out (1944:4), it was implemented by a single overworked man. The people of the district may well have questioned the point of having 'useful trees' when the initial forced plantings were not followed up with the provision of extension, processing or marketing facilities. Although they eventually received a small income for little effort when a local planter put this idle capital to some use, there have never been facilities designed specifically for local needs.

Belshaw maintained that even while receiving this income the people were unhappy with the scheme, not simply because they judged the price they received unjust, but because they felt it was 'wrong that somebody else should be able to exploit their own resources' (1951:14). Moreover, they resented the withholding of payments and this has left lasting impressions.
From the villagers' viewpoint Europeans who participated in establishing and exploiting their rubber, and other external agencies, have alternately assumed complete control of the enterprise - if it could legitimately be regarded as a continuous attempt to realize their assets' potential - or have adopted a laissez-faire attitude towards village production.

To help meet current demand A.N.G.A.U. encouraged resumption of the project after the war but the planter claims that 'in spite of repeated representations Administration has given no support, moral or otherwise', to the various schemes; although he sought to determine the villagers' preferences where alternatives offered themselves, it was inevitable, as things stood, that the people generally had very few opportunities to decide what form the scheme should take. They could merely be invited to express their preferences on random points about the implementation of a policy determined by others; they could also decide whether to participate or not, at the times a market could be offered.

When responsibility for specific tasks needed to be left with them as one scheme after another evolved, it was delegated inconsistently, left to chance or, at best, left to ad hoc decisions with the result that no clear and consistent definition was given to the respective rights and powers of Village Constables, Councillors, tappers and owners - either those initially listed on the agreement or the wider group said by informants later to have exercised these rights.

The fluctuations in the form of marketing schemes also engendered doubts as to the justification of the methods of determining the price or royalty they received. Uncertainties were not resolved by the lacunae in the scheme which some or all of the villagers were abruptly faced with at one time or another.

The people who planted coffee in 1956-7 had hoped that the income from the new crop would exceed their shares of the small revenue from rubber and could be depended on to provide enough for their annual tax paid to the newly established local government council. However, the income from the village plot would have been too low to provide this for everyone who participated in planting the coffee, if they had all been allowed to share in the money.

Whatever the cause of their unrealistic expectations, their disappointment and their bitterness over an alleged inconsistency in the payments made to different people or on different occasions for similar quantities of produce of uniform quality have been obstacles to the expansion of the present areas under coffee and to the introduction of cocoa as a second new cash crop. Growers express the view that, because their efforts with coffee have been
so misguided, they have no reason to expect different results if they plant cocoa as advised by agricultural extension staff. A point of interest here is the fact that although various people volunteered this view on independent occasions, it has never been the policy of the District Agricultural Office to advocate cocoa planting in the Saiho (Sivepe) area, but neighbouring planters have also observed that this is the view expressed among neighbouring villagers.

The areas of the gardens in which coffee was tried were too small to give satisfying returns. The income of £11 earned by the sample by weeding, processing and marketing their coffee in 1962 compares unfavourably with the £13 received from the year's sales of betel nut which grows well in the area, requires no maintenance and finds a ready market at any time among travellers on the main road.

It is said that enthusiasm for establishing coffee gardens was at a peak when the Administration paid 2 shillings per pound of parchment and has abated considerably since: a factor of central importance in the history of individual cash-cropping here and elsewhere among the Orokiva is the fall of the price for parchment coffee - by more than 50 per cent since the Sivepe trees were planted.

The size of the decrease aside, it quickly became apparent to us that because the people have only a limited knowledge of the processing and marketing of coffee once the product has left their hands and no knowledge of the process of price fixation, fluctuations in price seem quite arbitrary. A general fall is seen as another instance of the inconsistent treatment they have come to expect as producers and their response is negative. The withdrawal of interest in extensive coffee production due to the uncertainty of rewards is reported to be common in most villages in this area. However, while 725 people in the Saiho area experimented with coffee only 19 people, in 8 villages, have as yet decided to plant cocoa. Economists estimate that the price of each major type of cash crop currently in production in the area can be expected to fall by about another 30 per cent on the world market in the next 5 years.

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1 The average of 187 trees per grower in the Saiho Census Division (according to rough estimates available in 1963) is not significantly greater than the sample's 126 per grower at the time of our survey. The 1964 agriculture census, which contains much more reliable data, gives the Saiho average as 232 trees per grower and the present average for Sivepe as a whole as 220 trees per grower.

2 Figures from 1964 census, District Agricultural Office.
The people's experience of commercial agriculture has been so confusing and the returns to be derived so problematical that we are not prepared to say that, assuming the continuation of present marketing conditions, any member of Sivepe firmly believes that cash crops would still warrant extensive investment of his time and capital. However, it is evident that they have assessed the prospects of coffee, cocoa and rubber in turn and are inclined to believe that, of the 3, rubber is the crop most likely to produce worthwhile rewards for any labour they may devote to cash crops. The first individual plantings of rubber at Sivepe and neighbouring villages have taken place recently. In the past few years 1 householder in our sample has planted nearly 100 trees near Nahihita. He is employed as a rubber tapper on a nearby plantation. Another has 1 acre of cleared land intended for rubber.\(^1\) The seedlings are taken from the low-yielding lines in the village stands. There is land available to give some scope to extension of the present areas under rubber which could be sold through the existing outlet.

However, these production increases will be limited by the fact that villagers have to be content with low-yielding seedlings while high-yielding lines are now being introduced on to local European plantations and the Department of Agriculture Nursery and by the knowledge that, quite apart from the variability in the returns for their present efforts to produce rubber, with coagulum they are limited to manufacturing a consistently low-priced product. They can make comparisons in discussions with local people employed on neighbouring plantations processing quality sheet rubber and in many cases they themselves have had first hand experience on rubber estates (see Table 10).

It is reported from various sources that the villagers to date have failed to find satisfaction in the organization of rubber production and in 1964 many were considering a plan to establish a rubber growers' co-operative on the lines of the Orokaiva Coffee Growers' Society, proposing to build a large factory of their own to meet the demands of the area now served by the European planter's factory.

\(^1\) Since our departure, this area has reverted to bush. Another area was cleared by the village for cash crops and it too was overgrown. Apart from various misunderstandings which again seem to have been the cause of abortive enterprise (E. Waddell: personal communication), this may indicate, among other things, that there is currently a strongly ambivalent attitude towards rubber production which requires resolution before a programme can be carried through.
However, different proposals had already gained wide currency; whereas the Administration had previously refrained where possible from participating in the local development of rubber, agricultural extension services have been expanded in response to widespread renewed interest among the villagers and Department of Agriculture staff have recently established a factory near Ombisusu village on the scale considered suited for economic viability. It has an optimum capacity for the production of sheet rubber on smallholdings of 20 to 50 acres under high-yielding trees.

Part of the programme at Ombisusu has been the redistribution of land for development as individual cash-crop blocks similar to the Yega cocoa project.1 Demonstration of this development has undoubtedly further stimulated local interest in rubber. It is calculated that the problem of capital for investment in such a factory, a figure of the order of $240, might be met in the absence of sufficient village entrepreneurs by the co-operative ownership of facilities by a small number of neighbouring growers.

On the other hand the European who has been buying rubber from the villages believes that 6 smallholders, for instance, each with 6 acres, could be expected each to receive a net annual income on present prices of about $360 (after repaying a loan) only if the producer were to tap daily for 310 days a year on a semi-commercial standard and produce good quality sheet rubber without direct supervision from a fully qualified officer.

He envisages instead a pilot project which would involve the planting of about 100 acres with high-yielding seed at Sasembata, for instance, where the project 'would be partially financed by some 34 rubber areas now in bearing' and, having little overhead cost, 'could afford European supervision by subsidy from the Administration'. The new land might be made available on a co-operative basis; this should be developed by labour receiving 'a minimum basic wage and the unpaid value be credited as units held in shares', whereas the villagers tapping existing stands could sell the latex at the project centre on a poundage basis.

The Department of Agriculture's budget-planning, incorporating the possibility of small loans to producers, has been carried out on the understanding that all smallholdings should be held and worked by an individual or nuclear family.

Establishment costs might be reduced if the building standard were to be lowered judiciously, if standard agricultural equipment

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1 The participants in these schemes were reported to be keenly interested in the possibility of receiving registered title under the Land Tenure (Conversion) Ordinance, 1964.
is already in use and if, as is hoped, high-yielding seeds become available at a much lower cost. The returns may be higher than this estimate since the prospective yields per acre in the area are very good. Participants would be encouraged to plant on contiguous areas near the factory. The extent to which this could be done without requiring measures such as consolidation of holdings would depend on the minimum number who could operate the facilities economically and on the area within which men could be found who were prepared to invest capital and time and to wait for returns.

The possibilities of extending such pilot schemes and of rationalizing land claims for use in cash cropping in general would be enhanced if a redistribution of the limited and fragmented land resources among the more progressive individuals could be effected quickly and economically through a consolidation scheme promoted largely by villagers themselves. Members of 2 clan branches in the neighbourhood, who claimed a remote historical link, expressed to us their desire to abandon the system of gardening in isolated places and to develop their land on a co-operative basis but the plan had not been at all thoroughly thought out. However, adjustments along the lines of the scheme which was introduced by Hohorita (another village in the council area) but which did not receive the Administration's immediate backing, would provide a valuable basis for the extension of cash cropping.

If the capital can be found and if there is a successful outcome to the plan to capitalize on current enthusiasm to promote small holdings of rubber (which promises the best returns to village producers), this could be a significant step towards providing individual producers with new scope for initiative. Although technical supervision and extension services would be necessary, such a development plan would avoid the situation which Keesing (1951:12) believed would accompany the development of village agriculture in the area - 'as in socio-political affairs... the responsible organization and leadership would have to be provided from outside, with the dependence relationship which this implies'.

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1 At present these seedlings are sold at 2 shillings each from the nursery at Ombisusu.
Appendix A

The identification of 'the tribe'

The various accounts which observers give of the Orokaiva living on the slopes and plains north-west of the crater of Mt Lamington differ explicitly or implicitly as to both the composition of the largest political unit and the proper local name for it. Williams (1925:406; 1930:5, 136) refers to them as the Wasida (Waseta according to the local dialect) or Jegasi Sarahu tribe and distinguishes them from the Sangara, Aiga and other Orokaiva tribes on the grounds that these are the largest units with a common name, a common territory and enemies, and a distinctive dialect. The actual classification follows a less certain one made earlier by Chinnery and Beaver (1915:160).

Reay (1953:110) also speaks of the 'Wasida or Jegase Sarata tribe' and Chinnery and Beaver (1915:161) of the 'Jegasi-Sarau (Wasida)' but these writers do not indicate the specific area to which the name is to refer. Although in one context Williams (1925:406) locates the tribe 'on the plain immediately north-west of Mt Lamington', elsewhere he greatly extends the tribal boundaries (see pp.29-30).

It may be noted that the Jegase and Sarahu, whose names in combination have been used to designate either a 'locality group', 'tribe' or 'sub-tribe' (Williams 1925:417); 1930:150, 310; W.10; Reay 1953:110) are merely 2 of the clans in the tribe.¹ The same is true of the Ato-Pekuma group which Williams refers to as one of the 'fairly distinct halves' of the Sangara tribe.² Chinnery and Beaver (1915:161) list 11 clans in the Wasida group, and Reay (1953:110) 12 clans in the Jegase Sarata group.

¹ See Williams W.10, 42. The clans were not confined to the villages known as 'Wasida' (W.69, 83); see also Plant (1951: Appendix 3) where he notes that Jegase men were present in both Wasida and Awala villages in 1950.
² Plant (1951: Appendix 4) insists that the Ato-Pekuma are members of the Periho tribe not of the Sangara.

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Beaver (1915: Appendices 3 and 4) speak of the Jegasa-Sarua (or Jigasa or Jegasa-Sarana) and of the Atibi Guma (or Atibeguma) as tribes but are inconsistent in locating them in relation to their neighbours.

Since 'Wasida' people were allied with Sangara groups in fighting their neighbours to the north (the Divinikovari, Togahau, etc.), Williams' only grounds for treating the 'Wasida' as members of the same tribe as the Hunjovearehu and as opposed to other neighbours, including the Sangara\(^1\) is the precedent sent by Chinnery and Beaver (1915:48) who claimed that their map of linguistic areas 'will show with tolerable clearness the various groups of tribes'; although Williams claims that 'the ultimate bases of the tribal division are political and economic' (1925:406), he states that his classification is based on their list of linguistic differences (1930:5) and follows them 1930:150 and end map; 0.9) in placing Divinikovari in the 'Wasida' area; he himself adds (ibid.) that this language classification 'apparently does not coincide with the tribal classification' since the Divinikovari (i.e., Hunjovearehu) and 'Wasida' are of different tribes.

Belshaw (1951:2) and Plant (1951: Appendix 4) prefer 'Periho' to 'Wasida' as a tribal name. The local people agree at least that 'Wasida' is inaccurate because it is really the name of a village\(^2\) and may refer only to its inhabitants, or sometimes also to its immediate neighbours - just as Sivepe villagers may be called Awala people after the nearby village of that name; this identification with a named group of villages or 'hamlet group' seems to be weaker than it was even a decade ago.

On the other hand 'Periho' (alternatively 'Beçepo') is a general term for 'bush', that is inland peoples, used by those closer to the coast (usually to the east) and is applied by them indiscriminantly to several tribes - at times to the Sangara (Williams 1930:6; 0.410). The Sivepe people are sometimes spoken of as the 'Kombu Periho' ('kombu', from or of, a mountain or height);\(^4\) they prefer to use the term 'Kombu Sangara' when referring to themselves and other Orokaiva from the slopes of Mt Lamington.

\(^1\) Plant (1951: Appendix 4) also argues against this.
\(^2\) Williams was aware of this (W.10) although he usually chose to retain the European-introduced usage, sometimes referring thus, as with 'Jegasi-Sarahu', to the tribe as he saw it and sometimes to the group of villages in the tribe.
\(^3\) One meaning of 'periho' is a small wild pig from the bush.
\(^4\) This is applicable a priori to the Sangara.
Other Sangara, they say, sometimes speak of the people on the north-west slopes as 'Kombo Sohe' (western Kombu); Williams too notes that the Sangara speak of them as 'Sohe'embo' (not, significantly, as 'Periho').

Williams (1930:159; 0.96; also 0.9) describes an Orokaiva method of 'classifying the tribes (or some of them) according to dialect' and says that the 'Wasida' are referred to at times as Mitia people, the Sangara as Mihia, the Aiga as Midia, according to the distinctive local pronunciations of a word meaning 'there!', or 'there it is!'. More accurately, we were told, the term in this context is used adjectively - embo mitere or 'the people occupying that place', embo mihere, etc. This usage points up a difference between the speech of the Awala villagers, for instance, and that of the Sangara, but such differences may be no greater than the differences between Awala and the Isivita villagers, their fellow 'Wasida' tribesmen. Moreover, the Orokaiva do not consider that the range of variations - on the whole minor consonantal shifts - throughout the area of the Sangara and 'Wasida' speakers is as great as the difference between any of these 'dialects' and the dialect of any of the other tribes listed by Williams.

Since 'Wasida' is still felt to have too specific a denotation and even the wider term 'Periho' is generic and not distinctive, we know of no evidence to show that the people who have been given these names recognize a common name themselves, which could be taken as an indication of a real distinction between them and the Sangara people as 2 separate tribes, or that their neighbours so distinguish them.

There are neither consistent views of the composition of the 2 groups nor a clear distinction between them according to Williams' criteria of language and political activity. The tribe or wider 'sympathy group' with its own intragroup morality which Williams (1930:309) distinguishes from the norms of intertribal relations, in this case included at least some of the Sangara to the east.

\[1\] Belshaw (1951a:245) claims that the people themselves do not attach much importance to a 'tribal' name such as 'Periho'.

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Appendix B

The local co-operative venture

The 3 clan branches in Sivepe have contributed to 2 joint savings accounts; one is shared by Seho and Jegase members and the other belongs to Timumu clansmen. These accounts were opened as part of a scheme involving several neighbouring villages.

In 1960 an officer of the Department of District Administration had recommended that the people in Sivepe and other villages consider opening savings accounts but they claim it was their own wish to pool their money for savings certificates in order to invest in some form of local amenity for which they had for some time been looking to the local government council.

The members of 2 clan branches at Hamburata village were the first to collect contributions under the leadership of an ex-medical orderly with 6 years' mission education, and others quickly followed their example. Soon most members of 12 clans in 7 villages, Hamburata, Sasemba, Torogata, Sivepe, Singi, Duve and Garombi had deposited money in a 'clan' account and scattered kinsmen in at least 4 other villages had contributed. Either following advice that a given figure should be the target for the first purchase of savings certificates or following an initial example, each of the 12 clans claimed to have collected £30 at first. Ten of them made a second collection of smaller amounts.

In June 1961 the Seho and Jegase people collected £30 and, as the others had already done, bought savings certificates to mature in 5 years. In July another £26 was collected and deposited but no further money has been collected since then.

Once the money had been collected advice was sought from the District Office as to how it might be invested. The plan eventually formulated was that the savings of all clans should be used to establish a trade store and later to acquire a vehicle to supply it. They were advised to arrange to have only an experienced man to manage the enterprise in its first stages and a Sasembata mission
teacher who had undertaken part of a co-operatives storeman's course was approached for advice. They decided to attempt to finance training for co-operatives for 2 men, but it was over a year before agreement could be reached on the selection of the trainees, 2 Administration Servants employed in Popondetta.

By this time the teacher had disassociated himself from the scheme and advised the participants to discontinue it on the grounds that they had proved themselves incapable of organizing properly constituted meetings, that the villages had failed to co-operate with one another and that they would not seek the assistance of government officers. He told them that the joint accounts were unworkable and that they would need to buy individual £5 shares if they were to proceed with the scheme.

The development of the enterprise up to the date of our survey had been impeded by the failure to agree upon a name, an issue which those involved feel to be fundamental, and by the absence of widely accepted leadership. Meetings have been marked by disputes between local government councillors, teachers and leaders of the various descent groups participating and some decisions arrived at during meetings have not been supported by villagers who did not attend.

However, we have received some indication since leaving Sivepe that more positive co-ordination in the neighbourhood has been achieved in the meantime and concrete plans have been put forward with a view to establishing and operating a co-operative store on the main road to Popondetta (E. Waddell: personal communication). There are at present at least 3 trade stores within easier reach of Sivepe than this.
## Appendix C

### Monthly rainfall for Awala, 1955-62 (inches)*

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*Figures supplied by Mr C.E. Searle.
Appendix D

Plant emblems

The members of Bebehupa lineage have the plant-emblem commonly associated with the dispersed clan branch, sesewo grass, as their lineage emblem or erahu. The Sesewopa lineage is a small group closely associated with the Bebehupa people for many years and informants, when asked to explain its name, suggested that it was descended from a Bebehupa woman and that the new lineage referred to its ancestress by the name of the erahu of her group, i.e., as Sesewoja, and themselves became known as Sesewopa. This explanation may reflect the present relative numerical strength of the groups and the process of segmentation may have been quite different in fact.

One unnamed genealogical branch of the Bebehupa lineage has taken the esege bush as an additional erahu. The Berekipa asserted that in practice they as a group would never use sesewo as an emblem, though they accept it as having been the emblem of Jegase men in this neighbourhood. Both the name 'Berekipa' and their own erahu, the simboro plant, were adopted (in circumstances which we could not ascertain) from the so-called 'people' of both the mother of the senior householder, and of the patrilineal ancestor of the other householder. We could not fix any historical details of the connection between this 'group' and either the Bebehupa or the Arehu. The latter also use simboro as an erahu, in addition to their own topu (fig?)-tree emblem.

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1 See Williams 1925; 1930:Ch.8.
2 Confirmed by Williams' data collected in 1923 (W.83). Even then not all members of the clan shared a common erahu (see Crocombe and Hugbin 1963:16; Williams, ibid.).
3 Referred to by Williams as hai or hae at Wasida (1925:408; W.12 ff., passim); kerahu and keratu are the usual variants in other dialects.
Appendix E

Cases of land transfers

This section presents our information on the only recorded cases concerning land inheritance where the ideal norm of lineal transmission has not operated automatically and where we could obtain enough detail to indicate clearly the factors involved in the devolution of specific rights to a particular beneficiary from among a range of candidates.

I

One of the 2 Berekipa men who came from Humburata and estab-
lished Pusahambo village was given a parcel of Timumu land and was able to re-activate rights in some of the land which his father had held. Nine acres in all, this was the only land held by the Berekipa people when it was inherited by the present senior house-
holder of the lineage. The son of the other immigrant who claimed no land in this area still depends on the senior man for gardening rights and on his own wife's brother of Arehu lineage.

II

His wife's classificatory brother (d7), just before his death about 1960, set aside 4 acres of land close to Sivepe to be in-
erited by their son (e2J); this Arehu man had no children and the rest of his land\(^1\) was inherited by his mother's 'sister's' son (d9), another Jegase (Bebehupa) man with whom he had once lived at Korogombata and later at Awala where he had moved from Sivepe several years before his death. He had maintained close relations with the 'sister's' son (and clansman), the youngest Berekipa householder at Sivepe, and was buried by him. The trans-
fer of land to him was sealed by a return gift of £5 and a pig; this was given, of his own accord, by the beneficiary's father to

\(^1\) He had already given a small parcel of land to his wife's brother who was also his sister's husband and lived at Sivepe. This man's heir (e4S) has now planted coffee on it.
the deceased's father (an old man soon to die himself) so that, he said, the transfer could not easily be contested later. Each of the 3 Berekipa householders has since cultivated a subsistence garden on the land.¹

III

One brother of the Arehu man who accepted the return gift was the mother's father of the Berekipa man who received the land; another brother had held land consisting of parcels mostly adjacent to this and these were inherited by his daughter, an almost totally crippled woman living at Sivepe (d5). She has granted the Berekipa man rights to her own parcels; it is agreed that these rights differ significantly from those he acquired about the same time to the 4 acres nearby: he claims effective control of the use of the land on behalf of the woman and her illegitimate son until he is adult. He agrees that the son would inherit the land from her.

The woman and the boy live in the house of her mother's sister's son, the senior Berekipa householder. The younger man now uses and expects ultimately to inherit the land of this householder, his father's adoptive father. He would no doubt prejudice these rights if he were to lay permanent claim alike to both areas which the Arehu have passed to his control. However, he has planted a coffee plot on land he controls on behalf of the woman and neither expects that the income should be shared in return for such permanent use of the land.

IV

The only Arehu person at present exercising rights to Arehu land is the only adult male representative of the lineage in Sivepe (d4J), a widower with 1 daughter married into another village. About 1954 a younger brother moved to Agenahambo and on to the land of his wife's lineage, some of which he anticipated his young sons would eventually inherit. The elder of the 2 brothers claims that he now controls all the land they received from their father and that unless the brother and his sons return from Agenahambo they will forfeit their claim to Arehu land in favour of his sister's son, to whom he proposes to pass on his own rights. This man (e2J) is the Berekipa householder who has already used his links with other Arehu to acquire land rights; he has a current garden on the resident mother's brother's land. However, he is doubtful as to the outcome when the issue of the other land is forced. It is impossible to predict what will

¹ We do not know what obligations to the Arehu they incurred on former occasions for temporary use of their land.
happen if the absent Arehu man and his sons do not return to reinforce their rights by continued residence and cultivation of the land.

However, it is clear that whatever the result of the statement of his intentions, the resident Arehu man stands to place others in a position dependent on him. He has ample land but no sons or close male patrikin in the village; little opportunity to manoeuvre is afforded by the tenuous relationships he has with Jegase clansmen other than the Arehu and Berekipa. By playing one of these against the other he can create new obligations to himself among the Berekipa, his sister's husband's group, to whom he has granted planting rights for some time, or perhaps attract members of his lineage back to the village.

Postscript. Since our departure the Arehu man has succeeded in attaching a newly-established household to himself: the exchange transactions for his daughter's marriage (to a Soroputa man) have been completed. He claims that he accepted only £9 and 2 pigs from the husband's kin although more had been offered. His reason for rejecting the larger offer is that the married couple have made their home next-door to him at Sivepe; if they had built at Soroputa, he said, he would have accepted (E. Waddell: personal communication).

However, the point of interest here is that he has been asserting that his daughter's husband will inherit his land. We do not know whether the husband is expected to inherit the land the Arehu man now controls for his brother or only parcels he himself inherited; it does not seem likely that in either case his stated intention to pass some of the land to his sister's son could be discounted altogether, short of an improbable breach in relations between him and his sister's household.

V

The only surviving members of Sesewopa lineage are 2 sisters, 1 of whom lives in Sivepe married to a Seho man. She claims 4 parcels of land inherited from her father and exercises her exclusive rights to the produce of trees there but gardens on her husband's land. She jealously protects the rights of her sons to inherit this land and most members of other lineages concede that because they are living in the village they will acquire the land whereas their mother's sister's sons at Kiorota will have no rights. However, in the past the Sesewopa have been closely associated with the Bebehupa and the leader of this lineage, without openly opposing her claim, takes other opportunities to advance the view that, for the present, title to the land rests with her father's kin whom he insists he represents.
SELECTED GENEALOGY II

SEHO
JORUTIKA

K

BEBEHUPA

HAMBAL EMBO

? c

\( \Delta \) d

11J \( \Delta \) 12J \( \Delta \)

\( \Delta \) 10J \( \Delta \)

\( \Delta \) 14S \( \Delta \) 13S

115
VI

One Jegase lineage, Hambai'embo, has recently died out and its land has been transferred to members of other lineages and clans. The land of 1 man (c8) was divided when he died without sons or brothers. Three parcels were inherited by his daughter's son (e6S) and the rest were shared between 2 men of Bebehupa lineage (d9 and d12J), who lived in the same village as he.

VII

Several other parcels of land of Hambai'embo lineage were inherited by 2 Seho men (d13S and d14S) from their mother's brother with whom they had lived in Euru village. Neither this Jegase man nor his brother had sons and on his death rights to some of his land were transmitted to the sister's sons and some were assumed by his surviving brother. As this man had no family he lived in the household of his sister's daughter's husband (d12J, one of the Bebehupa men just mentioned) who inherited the land when he died. This heir and the Seho men have made conflicting claims to 1 parcel formerly held by the Hambai'embo; it is quite possible either that there never was a clear-cut division of the paternal land between the brothers of that lineage, although they seem to have lived and gardened in different areas, or that the dispute centres on questions about the shares inherited by the surviving brother and by the sister's sons of the first brother to die.

VIII

Three of the 4 Bebehupa households in Sivepe have current gardens on land of members of Jorotika lineage of Seho clan at Sivepe. The mother of the head of one of these Jegase households (d10J) was a member of a genealogical branch of Jorotika which has no resident members. The land of his mother's brother (who has been absent in Port Moresby for about 20 years) is at present controlled by the gardener's neighbour, another Jorotika man (e4S), who has confirmed that the area now used by the Jegase man may be passed to his son. His mother had been the only Jorotika person to use it continually in the past.

IX

The 2 other householders are brothers (d11J and d12J) whose mother belonged to a second Jorotika subgroup. One of them (the leading member of Bebehupa) has been making several successive gardens nearby on the land of his mother's brother who lived in Sivepe. His wife's classificatory brother (d13S) controls this portion of lineage land as a member of the same Jorotika subgroup; he is the most prominent and influential member of the Sivepe branch of Seho clan but he was not consulted on the question of
the transfer of the other Jorotika land. He has dismissed the Jegase man's claim that he and his brother have rights similar to their lineage-mate's (d1OJ).

The 2 disputants are the same parties who made conflicting claims to the Hambai'embo land.
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