

# Sarawak Gazette

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## The Sarawak Gazette

TUESDAY, MARCH 31st, 1964

### Arms and the Man

The introduction of conscription marks a vital stage in the development of the new-born Malaysia, for nothing so truly welds the diverse components of a society into a firm and compact nation, as the call to arms, which summons all to do their duty. Yet the concept of conscription, the calling up of all men in certain age groups with exemption only for those engaged in pursuits vital to the common good, is wholly modern, and takes its beginning from France of the Directory in 1798. England utterly rejected the idea of a conscript army, and only the horrors of 1915, when the flower of a whole generation perished in the mud of Flanders whilst the woods grew fat on war profits, finally overbore traditional conservatism. When the Second World War engulfed Europe, every nation established its method by conscription, for it was accepted that death and wounds must not be confined to loyal volunteers who volunteer to defend their country, but must be shared equally by all citizens.

Hitherto, since first their country was menaced, the youth of Sarawak have generously volunteered, and the press of those seeking to enter the services has embarrassed the peace-time establishment. Now with the introduction of conscription all will be on a different footing, for the door will be opened wide, and through it will pass not merely the enthusiasts, but also the lukewarm and indifferent; all must equally bear the burden of military service, and all will in the process discover a new comradeship, in the course of which the enthusiasts will serve as a haven to the rest. Experience shows that comradeship in arms in the face of danger binds together men of the most diverse sorts, and the greater the danger, the more assiduously does the better element influence the rest. One of the few redeeming features of warlike is the solidarity it breeds amongst those who suffer its impact, and in a nation composed of such diverse elements as is this, such compacting may well lay the foundations of a great future. If the

call "Crush Malaysia" summons the enemy to aggression, it also summons the citizenry to close its ranks in common purpose.

Thus far the present emergency will be productive of good, but it will also raise the question of Malaysia's future defence, for no nation today can depend completely upon others; an army, navy and air force, however minute, are necessary for the preservation of national identity. Time was when the strength of an army was measured by its number and, today it is far otherwise, for armies are small, heavily equipped and highly trained; their strength lies not in number, but in quality. The day of the brutal and lacerating soldiery is passed; the Duke of Wellington's description of troops as the scum of the earth is no longer either accurate or acceptable, the valour of an Irish Lord Lieutenant to the militia after manoeuvres "Depart to your respective abodes, the gods and goddesses of Ireland", would today be irrelevant. As warfare has changed, so the whole character of a career as arms has changed; the ranks are no longer recruited from the bottom and jettison of society, they are composed of men proficient in many skills; officers are no longer careerist amateurs, but constitute a highly trained professional body.

In the past it was said that the British army consisted of the dregs of society suffered by the wars; the two extremes in the social compound. There were, of course, exceptions, Sappers Lamb and Chibbert captured the ranks, whilst the genius of Marlborough and Clive adorned the staff, but in general the army was an amalgam of obscurity and irresponsibility, and its achievements between Blenheim and Passendale were such as only the wealthiest country in Europe could have sustained. The opportunity with which a succession of appalling disasters could be relieved by the public derived from the peculiarly English view of the army as a preserve of amateurs, and as it is the characteristic of amateurs to be unsuccessful, so military defeats were not taken amiss. The navy, on the other hand was a highly professional body and the nation's true bulwark of defence; a naval defeat was an affliction to the national honour, which moved all men both high and low.

One of the most enduring heritages of the Officers' Revolution of 1688 was a fear of standing armies and a distrust of professional officers, for it was commonly held that if the army were led by gentlemen of means by way of a hobby, it would never constitute a threat to the state; that it would equally not constitute a threat to other armies was accepted as one of the limitations of the situation. When in 1813 the Royal Military College was established at Sandhurst with impressive intent of avoiding the more catastrophic defeats to which the public had become inured, it was commonly regarded as a dangerous innovation, which might menace the constitution. Young officers were discouraged from frequenting it, and that with such effect that for the remainder of the century it achieved nothing at all. It was commonly held that proficiency in the hunting field was sufficient training for any officer; for the rest he could follow the tactics associated with the Noble Duke of York, which had the advantage of being intelligible and easy, if costly, of execution.

The same values were reflected in domestic life. In families of comparatively the eldest son would succeed in the estate; the younger sons, if clever, would go into politics or the navy, if dull into the army, if hopelessly dull into the church. Not only sons, however, were commissioned, there were instances such as that of the Misses Rahena, Charlotte and Tommasine Martin, commissioned in regiments of the line as Lieutenants Robby, Charlie and Tim Martin. Fortunately their military functions were confined to drawing their pay.

Today all is changed; the army officer must be a man of science. Bravery alone is not enough; he must possess a command of operations whose speed and complexity would baffle even Napoleon. The naval officer, on the other hand has fallen off, no longer does he stride his quarter deck manipulating acres of canvas in contrary winds, seeking to manoeuvre his heading round to grapple with the enemy, he now takes his cues before a series of dials, which practically fight the battle for him.

When considering the recruitment of officers today, the baronet and most minimal requirements must be the Cambridge School Certificate. If Malaysia is to build up a small, compact and modern officer corps, it must be recruited from amongst senior secondary schoolboys. But how, in the present context, is this to be done? Every boy who has gained the School Certificate has before him the choice of many and various employments, all of which will secure for him an honest competence with no risk and little exertion. Thus he will choose a career at arms in most unlikely, and even did he so elect he must face the obloquies of his father, the tears of his mother, and the impermanence of countless relatives, all of whom take exception to his hazardous life and lack in the army. To give scholarships to needy boys with the proviso that they must would achieve nothing, for once they had obtained their qualifications, their relatives would hasten to buy them out, or in their desire to leave they would be such unwilling recruits as to perclude their ever becoming good officers.

If an officer corps is to be created from amongst vigorous, able and enthusiastic young men, then a beginning must be made much further back, it must indeed be made at the primary school level, and the recruits must be such as are subject as little as possible to family pressures.

Here then is the opportunity at once for meeting a need and solving a problem, for while the search for potential officers emphasises the recruiting agent, the disposal of unwanted children perplexes the social worker. In every community are to be found the unwanted; bastards, children of previous marriages, or those for obscure reasons rejected. These unfortunate, being deprived of parental affection and unrestrained by family are all too easily embroiled upon evil courses. Yet they provide the ideal raw material from which to fashion brave officers. They do not lack intelligence, and denied family affection they crave comradeship, which is so often their undoing, but which can find its complete satisfaction in the soldier's life. The achievements of Dr. Barnardo and others in Europe have shown how stunted and dwarfed from such as these may be enlarged and enriched, so that society instead of creating enemies endows protectors.

Let consideration be given to the establishment of some institution wherein neglected and unwanted boys of primary school age may be harboured and nourished, so that they feel there the home and happiness that their families have denied them. Let them be given a good all-round education with a strong bias towards soldiering from the start. At a certain stage a selection must be made, and those who have not the capacity for senior secondary education must live off to be trained as N.C.O.s. But let those who can go forward take the school Certificate and Higher School Certificate or technical certificates, the while combining work with their officers' training. Thus will emerge

a group of highly qualified young officers, whose whole life and interest will be in the army. No for them obloquies fathers, weeping mothers or importunate relatives: their home will be the camp, their family the men and their brothers those fellow officers. In such a body, small, skilled and devoted will be Malaysia's best assurance of defence, and of such a body will its members say "We live, we happy few, we band of brothers".

## Borneo Caves

by TOM HARRISON

A very large part of the great island of Borneo consists of sandstone or volcanic rocks which vary seldom from even rock slabs in our sort of equatorial, high-rifted climate. But there are important, usually fairly isolated, outcrops of limestone, notably at two places on the coastal plain of Sarawak, rather more extensively in Sabah, and especially in a section of south-east Borneo, now Indonesian Kalimantan. Nearly all true caves in Borneo are in the limestone; but there are also rather more remote cave outcrops, not always limestone, in the far interior, notably south as in Sabah. Since 1945, I have travelled most of these areas myself and investigated several hundred caves. Individual caves in Sabah and Kalimantan have also been visited on our behalf by other members of the Sarawak Museum staff or associated expeditions. We now have, therefore, a pretty good overall idea of the Borneo cave situation.

I want to give this broader impression emphasis, because the potential for cave exploration and to a lesser extent for cave archaeology in Borneo is (if fully controlled) considerable. The fact that virtually all the recent work has been done in the State of Sarawak by no means necessarily implies that the Sarawak caves are necessarily the most important—though it is likely that the Niah cave group in the Mount Mulu massif is the greatest and richest from all points of view, not only in Borneo, but in South-east Asia: (the main part of the Great Cave itself has a floor-area of twenty-seven acres, our main path through it, 1,400 yards in darkness). Undoubtedly, further research will show, for instance, that practically every cave which meets a certain set of criteria, will contain archaeological remains anywhere in Borneo. In the future planning of cave work anywhere in Borneo, it will be important, therefore, on additional criteria of research need, certain caves which are likely to have special characteristics, to be workable without excessive cost, and to produce additional research results compatible with the very considerable effort that anything of this kind requires in the Borneo climate and conditions.

I stress this point, because there has been far too much "treasure-hunting", too much under-planned, over-hasty cave work in certain other parts of South-east Asia during the past few decades. Valuable sites have either been ruined or inadequately handled. This gives additional importance to what remains in Borneo, very little of which has yet been spoils—largely because conditions (and especially communications) have been very difficult throughout the island.

Finally, by way of introduction, it is to be hoped that work in the other countries of Borneo will be able to benefit from our own considerable experience in Sarawak, where we started systematic cave-exploration in 1947, and really big scale excavation since 1954. This could provide a basis for an integrated, intelligent approach to the outstanding problems which can be illuminated by selective, adequately thought-out examination of other caves. The field is so large and the difficulties so considerable that any more random "method" is likely to produce wasted effort, repetition and even confusion.

In writing this, I am thinking primarily of archaeology, but also very much of the study of pre- or complex societies with special reference to their burial

a matter of remarkable interest in the Borneo context, and our Sarawak experience has shown that it is inadequate to consider any cave other than as a total bio-site, without prejudicing a thorough understanding of whatever particular subject is being primarily studied in it. Moreover, we have a responsibility (at this stage), in considering all caves for the future. This can be a very delicate operation, whether we are collecting mammals (of which there are more than 50 cave species), studying obscure cave corals (of which there are only two known colonies), or removing human remains by excavation. There is in fact no justification for disturbing any cave formation unless that cave poses a particular problem for investigation.

With the sort of caves we have in Borneo, any operation conducted inside that cave can unwittingly be just as destructive and vandalism as the careless felling of a specialised jungle habitat or stripping of an island beach—which may happen to contain the finest sand for making glass and one of the last breeding grounds of a marine turtle (though the beach has actually been taken for cement!).

Interest in Borneo caves has an honourable scientific antiquity. Just a century ago, Thomas Henry Huxley (in 1864) recommended that Borneo caves should be made the subject of special study and an expedition be sent there. This interest was in part aroused by Alfred Russel Wallace, who of course had spent two of the crucial years of his life as a naturalist in Borneo. In May of that same year, Wallace wrote to Charles Darwin:

"My dear Darwin—I was very much gratified to hear by your letter of a month back that you were a little better, and I have since heard occasionally through Huxley and Lubbock that you are now worse. I devoutly hope the summer weather and repose may do you real good."

The Borneo Cave Exploration is to go on at present without a subscription. The new British Consul who is going out to Sarawak this month will undertake to explore some of the caves nearest the town (Kuching) and if anything of interest is obtained a good large sum can no doubt be raised for a thorough exploration of the whole country. Sir J. Beakley will give every assistance and will supply men for preliminary work."

(signed A. R. Wallace)

Even in those days things took a long time to happen in Borneo. Darwin—Wallace—Huxley were doing well by getting A. R. Everett into the field, exploring the caves, tentatively, in 1873, and more specifically in 1878-9 (cf. my paper in *J. Anat.* 1, 1958). Sponsored by various learned societies, Everett tentatively explored the first group of caves in north-west Sarawak, and the Niah Caves 300 miles further north up the coast. His report was published by The Royal Society (1880). It is now doubtful if Everett really made a job of this exploration—his record in-and-out of commercial collecting and Borneo Civil Service is an extraordinary one. Anyway, he found very little, and the Royal Society concluded that no further expense should be incurred in this area. As Everett left various reports of his findings—mainly non-findings—in the local literature at Sarawak itself, it may be imagined that this was no help to us when we started asking the Government for money to carry on cave-research 65 years later. We had to start with quite small studies in caves easily accessible from Kuching, capital of Sarawak and locality of our museum (at present, the only one in Borneo). Here I was commonly helped by my friend Mr. Michael Tweedie, then Director of the Raffles Museum in Singapore, who generously contributed funds at his disposal to get our cave work off the ground and participated himself in this and several subsequent expeditions.

The results at the Niah caves were not of great importance, though of course we found plenty of human material—I have yet to find a Borneo cave where you do not (and the finding of one such would itself be of considerable significance). But this was a fine exercise in training staff. And in my wide wanderings through all four of the Borneo territories, I had already decided that the Great Cave at Niah was the one we should go for—when we were really ready.

Such readiness consisted of a fully-trained and experienced staff, at all levels, and really adequate funds, to ensure that we could work without any sort of pressure of haste, any need to produce rapid results. By 1954, the Sarawak Government had gained a bit more confidence in my archaeological ideas, and the Shell group of companies (under Hector Hahn) had, for various reasons, got even more interested. With over thirty Asian men really experienced in techniques of digging, sorting, labelling and preserving material, we made a preliminary trial at Niah in 1954. Initial results from the enormous West Mouth were even more gratifying than I had dared to hope. It was soon evident that to tackle this cave properly was going to need permission by the state, financed by the tone of thousands, and a long-term programme of continuing work both in the field and with the excavated material back in the Museum at Kuching.

It was not until 1958, therefore, that we returned to dig at Niah. Here we were helped by a photographic collaboration with my friend, Mr. Hugh Gibb—and incidentally by the fact that a film we made together on the caves was a Grand Prix at the Cannes Film Festival and attracted world-wide attention to this superb limestone formation.

At this stage with much increased support from the Sarawak Government and continuing help of practical kinds from the Shell Group, we were greatly encouraged by a very generous grant from the Gulbenkian Foundation. Since then, they have continued to support our Niah work. Without such help, we should be two or three years behind our present programme—which is planned to continue at least until 1966.

Excavations at Niah have now taken us down to approximately 100,000 B.C., beyond the limits of the Carbon 14 method. The very peculiar conditions inside this cave have prevented fossilisation, so that we have found the earliest *Homo sapiens* skull in the far East in non-fossil conditions, and bones of the long extinct *Mastomys palawanensis* looking much as if they could be boiled up to make pemmican stew with sledge dogs if you went at a pinch in the arctic.

In 1965, we shall continue deeper. But we are already beyond the depth where bone and shell naturally disintegrate into powder unless they have been polished or otherwise modified by use or some very unusual circumstances. Only stone tools and the chemical analysis of the soil we are digging in assure us that we are not below the limits of human habitation. And as we are still well over 100 feet above the floor of the valley and the protecting cave cliff, there are hopeful reasons for supposing that we can continue down. With a bit of luck, and a slight change in archaeological, geological or past climatic circumstances, we may be able to link up with the pre-*Homo* material as we go. But that remains, of course, in the lap of Pliocene gods.

Meanwhile, at the higher levels, we have accumulated a really remarkable wealth of material for the middle last stone ages on into the beginning of the iron age. When we began, we thought that the West Mouth would be a principal archaeological site in itself. We have now found that every other habitable mouth of cave is rich in archaeological material. And this led on to a theory of explanation of the whole area which has produced literally scores of other caves, sometimes real "local" of the human past. One of our main problems has been to keep clear in our minds what we are

excavating, analysing and summarising as we go along, so that we shall not waste effort in repeating, but look at other aspects either in the same or other caves. For instance, certain caves have been the subject of specialised use for very short periods, and sometimes by a particular group of people (e.g. "negritoid", early Chinese traders; the very early men seeking high cliff refuges.)

In parallel with this, extensive studies of other aspects of these caves have been in progress. At least four million settlements and the genus *Colobus* make their nests (some species edible nests, others not) in the Niah cave ceilings. More than a million bats emerge from these caves every evening, some quarter of a million from the West Mouth alone. Lord Medway and others have made thorough studies of this voracious fauna—which is, in itself, a vast wealth of protein, one of the main attractions which brought stone-age man here in such numbers and continuously for such a long period of time.

We recently discovered that the cave darkness also contains a highly specialised *Coleo* Lizard which Dr. Inger and Dr. Wain King of Chicago have just re-described as new to science. So far this lizard is not known from anywhere else in the world.

On the invertebrate side we have had to rely so far mainly on collecting material and sending it abroad for study. But we have done a lot of basic work of our own. I have already mentioned the aberrant snail *Strophodon*, which lives in association with the extraordinary Naked Bat (*Chiropterodon*). All these *Arctostictus* at Niah are concentrated in a single colony centred on one particular fallen birdwoman's climbing pole about a hundred yards inside the West Mouth. We have now made this a forced-airway sanctuary, perhaps the only one of its kind in the world!

The whole of the Niah Cave area, and all the cave floors and ceilings, are now declared protected places under the control of the Curator of the Sarawak Museum. The collecting of birdwoman, a fascinating subject in itself, is done through the Curator's licence. The collecting of guano from the cave floor is run by a committee of local people, under rules laid down after democratic discussion, by the Museum. We have so far had the best co-operation from the guano-collectors, in integrating the interests of archaeology and guano-collecting, birdwoman-collecting, accessibility through the caves and the general idea of the caves as a future asset to the whole community—and perhaps presently to the whole world! There are always difficulties, but such interests can be and must be integrated. The failure to do so is tragically illustrated in most of the caves of Malaya, for instance, where there is simply nothing left for anyone unless he wants to blow up the cave for the diamonds—which is what they are doing around Kuala Lumpur (but now, happily, in co-ordination with the Malaysian Nature Society and other scientific interests).

Lastly, I should like to mention that we are trying to leave parts of the archaeology of the caves in situ, for the future. At present, we have more than 100 burials preserved exactly as they have been exposed—and, with suitable treatment, under perfect, the first lot have shown no signs of deterioration in seven years. We have a big difficulty with the magnificent Painted Cave, for fear of vandalism by the newly literate, almost pathetically keen to write, local school children. But we now have a permanent staff of guards in the caves; a house in the West Mouth, and a well-organised base camp on the adjacent river ("Chalawa Outfitters Lodge").

My ultimate idea is to make part of the caves a living museum—both of the present and the past. Our Government and senior politicians are alive to such

ideas. But, as usual, inevitably, there are great difficulties ahead. One is the rapid development of pepper and other advanced cultivation which requires much fertiliser—and the pressure for faster guano extraction from the cave floor, threatening our present (and in the long run including) arrangements. For development reasons, the main road planned for northern Sarawak is likely to pass close to the cave within a few years—perhaps before we are really organised to take too many visitors.

But there are problems familiar to everyone in this field. At least, we are thinking hard about them; and doing what we can to build up local goodwill. From the beginning of these and all excavations which we do in Borneo, we have tried to bring the local people along with us; to see that they benefit from our work and also are kept fully informed about its present meaning and future intention.

In all this, we have been helped by a great many outside people (most of these are listed in my recent survey to the Royal Society of Arts—1964).<sup>2</sup> But I would like here to pay special additional tribute to those who have undertaken the sometimes really tremendous task of working on the food bones which we continue to remove in quantity from our excavations. We keep every fragment of bone, identifying it from the spot. Much of it can probably never be identified, in the scientific sense, beyond that. But with the help of Lord Medway (who has also done a major biological research on birds, etc.) we are slowly building up, from identifiable pieces, a picture of the past fauna, as eaten by stone-age man. This has not been done before, on any appreciable scale, in our part of the world. It is difficult to express one's admiration for the patience with which this material has been tackled, not only by Medway himself, but by others to whom he has sent selected sections for more particular study—namely his father, the Earl of Crathcock; Dr. D. A. Hooger (eminent Dutch palaeontologist and taxonomist) and Miss Pat Aldridge (now at the University of Hong Kong).

I began the Niah work before I married Barbara Harrison; but since 1958 she has spent many months, under the trying cave conditions, giving major assistance. And on two occasions—in one of which she was caught up in the middle of adjacent rebellion—she has supervised part of the programme on her own, when I have been unable to be around. Perhaps I could conclude these rather random notes by a description of her own extraordinary discovery on the Painted Cave, upon which we are gradually preparing a joint, full-length monograph at present, to be published by *Arthur Allen*, fully illustrated.

Finally we came upon a place with an even more spectacular display. My wife was the first person to enter this part of the labyrinth. She was so moved that she came back to camp and burst into tears.

Here is one of the strangest, loveliest and quietest death scenes an archaeologist can wish to see. High above the valley floor, in a cave mouth beautifully coloured with green, purple and orange lichens and mosses, there is a perfectly dry, dusty floor. Upon this floor there was, and we cannot see, trace or sign of man's footprints. The cave is not, indeed, of interest to the local people, for it is one of many where there are no edible birds' nests to attract the nest-collectors; and no bats to attract the guano-collectors. Only the footprint of a family of Leopard Cats patterned the floor in many directions.

In a scattered line along this floor lay a number of what at first glance appeared to be ordinary Dayak pebbles, other bones. They lay "beached" pointing towards, on the dry dust. Coming closer, one saw at once that they were shallower and shorter

<sup>2</sup> Separate reports available on request from the Museum.



than boats and were really coffins, each made in two parts, both boat-shaped, but slanted to fit together. With each, the lower "boat" had a queer bow-pipe, curved in the face of a snake-headed dragon or snake-headed crocodile. These boats had originally been placed on posts, one at each end. But over the centuries all except one had fallen over. Littered on the ground around were human bones of all sizes, and a conspicuous number of skulls, mostly snake-heads bore with holes. All over the ground lay pieces of earthenware and numerous pottery.

This is the bit of Niah we have tried, however inadequately to reconstruct under the stars at the entrance to the Museum Old Building in Kuching today.

Tom Harrison.

*[This paper is a briefer version of one prepared for the Archaeological Society of the U.K. to be published by them from the British Museum, London, during 1964.]*

### The Limbung Tattoo

By Captain R. Holworthy, JP D. E. G. Gurkha Rifles.

One morning, soon after our Pipes and Drums had been Reform in front of the bullet-scoured shop fronts of Limbung in the Fifth Division of Sarawak, the Colonel remarked "The District Officer has said that the boys would like a repeat performance. I think that we might be a bit more adventurous and have a small Military Display—say a drill squad, mortars, machine guns, a sapper bang, something of that sort. Can you put this into effect?" That was the project born, a few certain orders to a repeat performance of Reform, Little did I realise at the time that our projected efforts to contribute to the success of the "Hearts and Minds" campaign being run under the auspices of Psychological Warfare would result in a show the likes of which I have not seen since the shade of my home village in Hantsfordshire got drunk on scenery on recreation night.

The first thing to fix was the date. A quick visit to the District Office, himself an ex-Gurkha, resulted in the 26th March being chosen. While chatting idly about various aspects and difficulties he had the brainstorm that was the beginning of the snowball.

"Gee," he said, "We must have some girls. I think I can get hold of some Kronging girls from North Borneo. Anyhow, I'll fix something."

Back in Camp the news spread rapidly and the reputation of the civil administrators of Sarawak, already high, was as the "Victorious" and, in fact, so easily, "not only upheld but enhanced". The news also posed fresh problems for us in that something else was now needed to counter balance the military aspect of the display. If we were to have girls dancing then we must have some demonstration to follow. We needed a stage, lighting, loudspeakers, a bar, a changing room, the list grew and grew.

However, the District Officer, as always, was up to the mark. The prisoners from the Limbung jail were detailed to construct a stage with the help of the PWD and to redecorate the shack that went by the name of the Limbung Club. The Pipers Detachment from the Q. R. I. H. took a day off from telling the wives of the rebels on the Pandaruan Road what they should do with their forest-based husbands, and instead used their equipment to announce the forthcoming event. Offerings were made in the local longhouses to the gods to provide good weather. The bar was no problem.

Then, albeit unwillingly the High Commissioner for Borneo, Sir Donald White, came into the picture. He was due to leave the Sarawak on the 1st April and the Pipes and Drums had to play at his farewell parade. For this, ceremonial uniform was needed and frantic

signals to Ipoh, our home in Malaya, resulted in two sets of whites being flown out, one for his parade and one for Limbung. In addition the kit for the eight Highland Dancers, also members of the Pipes and Drums, was sent out by the R. A. F. thus adding a civil attraction to the Kronging Girls. After this the Police joined in and promised more than dancers from their than constables. The District Officer arranged for the wives of the Kedayan rebels in the Pandaruan road to sing Kedayan songs and play Japeh, a type of guitar. In the meantime the Q. M. had been busy in B. Echelon in Brunai Town and sent filled barrels for the mortars and tank firing attachments for the M. M. G. came chugging up the Limbung on the 2.45 four hours before the demonstration was due to begin.

As a rehearsal we had white phosphorus smoke bombs in the river, producing a wonderful mushroom cloud but rather too much fallout for safety.

And on the day came. After an anxious period during the morning the clouds cleared and the sun shone down from a hot, blue sky. From 10 a.m. onwards the crowds started to gather, boatloads coming down the river from up-country and others walking in from the neighbouring kampongs. The area in front of the District Office, a natural semi-circular amphitheatre with the river as a background, soon was a melting mass of humanity, Malays and Muruts, Iban and Chinese, Gurkhas and Europeans. Finally everyone was ready, the Scout cars from the Q.R.I.H. detachment in Brunai were in position, the display of weapons and equipment was set up behind the river house, the prisoners from the jail were marched up with their escort and from the shore, about quarter of a mile away, could be heard the sound of "All the blue bonnets are over the border" as the Experimental Band, immaculate in their white uniforms and Douglas plaid, marched proudly up the road towards the display area.

After they had arrived the three accessories stressed the fact that this was a performance to win the friendship of the population and to show something of our normal training. Then came the first display, a demonstration of arms and foot drill. After that came the mortar section, driving up in landrovers coming into action and firing a mixture of sand and phosphorus smoke bombs over the river into the swamp beyond. The excited chattering of the crowd and pointing fingers tracing the flight of the bombs bore witness to the popularity of the event. There was a sudden silence as the four "crumps" of the bombs landing were heard and then, as the smoke rose from the trees, the babal burst out again.

But bigger and better bangs were yet to come. Supported by five fire from 3 L. M. G.'s a detachment of Gurkha Engineers from B. Tp. 59 Pd. Sqn. shot across the river in an assault boat powered by a 40-H. P. engine, fired a few shots and, unknown to the crowd, set off a time leading to 45 lbs. of P. E. buried in the ground. They then came back across the river so quickly that the spectators mistook the engine, did not see the bank until the last moment. Luckily it was sloping and the boat finished up on the bank about four yards from the water's edge, the engine being raised just in time. It was most impressive even though unorchestrated. The PWD man's sigh of relief as his engine came to no harm could be heard throughout the audience. The crowd, thinking this was the end of that display, started looking for the next signal when "WHOOOM!" the whole of the river bank seemed to erupt in a mass of black smoke, mud and rocks. Until the last few ripples died away on the surface of the water there was a stunned silence, then a burst of spontaneous applause, "ooh" and "aah" from the Kedayans, "faster" from the Gurkhas and a lone "splendid, absolutely splendid" from the V. I. P. man.

This prodigious sapper bang was followed by the M. M. Gs. coming into action and firing blank. Finally the Pipes and Drums performed the ceremony of breaking Reform. It was by then sundown and as there followed a 30-minute break for refreshments and a static

display. From a vantage point on the Resident's lawn high up on the river bank we could look down on a scene very different from that of three months ago. Then the Machine Guns had been firing on Limbang, now the locals were swimming all over them, having risen on the scout can, talking on the wireless sets and pouring down mortar bombs.

The skirt of the Piques again drew the crowd from the static show and the eight Gurkha Highland Bancers took the stage, now kneeling beneath the clear Banyan. After the Highland Bancers the Thai Policemen gave exhibitions of Thai dancing. Signs of 20th century progress were visible in that the dancers wore Y-front underpants beneath their long black loin cloths but that in no way detracted from the spectacle. The rhythm of the groups, locally called *Kuphromang*, and drums, the flanking of the parangs, the swirling head-dresses of horrible feathers, all combined to make a memorable sight. The Thai were succeeded by Kelantan singers and then the stage cleared for the Roaring girls. "Only two and both married" apologized the District Officer but to the general populace that mattered little. By the time the first dance was over the queue was growing and other rival dancers were in progress in the most impetuous places. Chosen from the Limbang club announced the arrival of fresh supplies of beer and the town bachelors groined was a mass of dancing humanity. For the lowlands and locals it was the first opportunity to let their hair down since the 15th December. For the Gurkhas it was the last chance they had had of wearing civilian clothes and getting out for an evening without weapons since their arrival in late January. For the whole town it was a party and that was what we had set to provide. We know that our own effort on the Psychological Warfare front had been a success when one of the Thai *Fengshui*ists charged the District Officer by the hand and said, his wrinkled old face serious for a moment, "Tuan, for as the period of mourning is over".

### Our Duty to our Country

*Address delivered by the Hon'ble Dapuk anak Runden, M. P., to the people of the Chung Hwa districts of the 2nd and 3rd Divs on the Sarawak Road.*

The topic of my talk this morning is our duty to our country. You are no doubt aware that our motherland is Sarawak and Malaysia. You will remember that when the idea of Malaysia was first formulated it met with very strong opposition. Even at the present moment, some people still do not like Malaysia. However, any democratic government in this world will tolerate constructive criticisms or opposition as long as such are in the public interest.

The fact now remains that Malaysia is deeply rooted. There is no point in taking your minds back to those old, bitter feelings. Instead you should face facts, knowing full well that no human forces can crush Malaysia.

However, all of us as citizens of our new nation have to stand firm against evil forces, which are constantly working against us; as if we were travelling in the same boat sailing in a choppy sea. We can very well imagine the serious consequences, if we have trouble among ourselves whilst travelling together.

You might have heard from the radio or read in the papers why we must love our country, and why we must be patriotic and so on. Your teachers must have been teaching you about all these things. The importance of patriotism needs no further emphasis.

Nowadays, the catchword "running dog" is quite commonly used. This word is coined by the Communists and directed, to all intents and purposes, against those people who are loyal and patriotic to their Government, with a view to bringing them into disrepute and unpopularity, and diverting them into their duty "camps" with sinister ulterior motives.

Plainly, such people as Government servants, who are paid to carry out their duties loyally and dedicatedly, will be called "running dogs" by the Communists, because the latter have reasons to believe that these loyal Government servants will stand in the way of their achieving their most selfish, dirty and treacherous ends.

The catchword "running dog" is also applied to all loyal citizens, who support and co-operate with their legal Government in discharging their civic responsibility and obligations.

The Communists are using numerous methods to incite loyal and patriotic people in this country. They call them "running dogs" quite arbitrarily, and do all sorts of things against them, which normal people would never do.

I must say, with regret, that there are a lot of foolish-minded people, time-wasters or loafers-among with whom these methods prove to be most effective. It is indeed a shame.

What appropriate catchword shall we coin for the Communists then? These people like to stay in this country because they enjoy prosperity and happiness here. They know very well how their comrades suffer across the border.

I might as well tell you something about how your fellow Chinese are being treated in Indonesia. They are treated as foreigners despite the fact that most of them have been residents there for generations. From time to time, their homes are ransacked and young girls are indecently treated. A number of Indonesian Chinese have been murdered, deprived of their property and rendered homeless. There has been no law and order to protect them. From time to time they have made propaganda through their radio that the Chinese in this country are dominating the other races. These are all most absurd and fantastic lies. Their whole intention is to stir up racial disharmony and disrupt the long-established, traditional racial harmony in this country.

The top-class Communists in Sarawak are very clever people. They work clandestinely amidst us by prevailing upon, by false inducements, their less important comrades or sympathisers to sneak out of this country and go across the border to receive military training. After which, they will come back, and in fact a number of them have already come back, to kill our innocent people and destroy their homes. How do you like these conclusionless traitors?

They choose to remain in Sarawak themselves to stir their own fires, and do not worry in the least about others. I must say they are the first-class "running dogs" of Dr. Sukarno. But, I cannot think of a stronger term other than calling them political hypocrites, because they too do not take Dr. Sukarno seriously themselves. In fact, their eventual aim is a World Communist Front. They are just such day-dreaming madmen.

You are still schooling and, strictly speaking, I am not supposed to lecture you on politics. But, in these troubled times, you may as well know what are the real dangers both inside and outside the nation. Moreover, if you happen to hear anyone using the word "running dog", you will then be able to understand what sort of a man the speaker is. I advise you to respect your parents, brothers and sisters at home, obey your teachers in school and be patriotic to our nation—Sarawak and Malaysia.

### The Early History of Rubber Planting in Sarawak 1880—1910

*R. E. Treman, Agricultural Officer, First Division*

Although the cultivation of *Hevea brasiliensis* in Sarawak is of fairly recent origin, there exists some confusion as to the original introductions. Various

claims have been made. The *Sarawak Gazette Almanac* (1964) gives the credit of first introducing rubber into this country to Bishop Hone, who is stated to have planted three para rubber seeds in 1881, presumably in Kuching. Mr. Ernest Hone, (a nephew of the Bishop) in a contribution to the *Sarawak Museum Journal* states that "In 1882 there were two rubber trees in Sarawak; they were both in Kuching. One was near the Bishop's garden and the other in the garden of the Residency of the time", near the Rock Road. . . . When I first saw these trees in 1902, they were quite large trees. With the exception of these two, I think I can claim to have planted the first rubber in Sarawak. I persuaded the Borneo Company Limited, and in 1902 I started planting the Dahan Rubber Estate for them."

This is referred to in *The Borneo Story*—thus:—"The Dahan Rubber Estate, which began with 1,500 acres and was the first rubber to be grown in Sarawak, was planted on part of the Post Concession and became part of the Sarawak Rubber Estates Limited."

Another source states that "The first planting of rubber trees was done in Sarawak in 1905 on a farm near Kuching, now called the Sarawak Rubber Estate". In discussing the economic development of Sarawak, Sir Stephen Robinson states "The advent of rubber trees in 1905 made a tremendous difference to the agricultural economy."

After listening to a fascinating recorded interview on Radio Sarawak in 1963, during which Mr. Ernest Hone, (now in his eighties) described his early life in Kuching, including references to rubber planting, I decided to do some spare-time research into the origin of Sarawak's most important cash crop. From the economic and ecological aspects, it is difficult to imagine a more important event in the history of Sarawak than the introduction of rubber.

I received some valuable information from Mr. H. M. Burdhill, the Director of the Botanic Gardens in Singapore to whom I am indebted for the following "The first Almond sent to Sarawak was from the Singapore Botanic Gardens on 26th December, 1882, consigned to the Right Reverend Bishop Hone, Bishop of Sarawak. Our *Flora Outward Register* shows a shipment of one plant which must have been a small seedling". The Director very kindly sent a photocopy of the relevant page from the *Flora Outward Register*. This incidentally shows that the Bishop was a keen horticulturalist, for various flowering shrubs and trees were dispatched together with the one solitary rubber tree. Presumably this seedling grew into the large tree which Mr. Ernest Hone saw twenty years later in the Bishop's garden.

The Director's letter continues "The first *Nerpa* seedlings sent to Singapore in 1875 (actually the second batch for the first sent in 1876 all died), from Whitman's collection of 1876 and purchased at Kew Gardens numbered 22, and were split up:— Nine were planted in the Botanic Gardens, Singapore, and nine were taken by H. M. Marston, Superintendent of the Botanic Gardens, to Kuala Kangsar and left in the charge of Sir Hugh Low, British Resident. The balance of four seedlings were either casualties or were planted elsewhere, but this is uncertain.

"The Kuala Kangsar trees flowered and fruited in 1881 for the first time. The Singapore trees, suffering a transplanting in 1879, flowered first in 1882. The Botanic Gardens' *Javanese Flora Register* shows a consignment of seeds received from Kuala Kangsar in October, 1882. It is possible therefore that the first Sarawak seedling was from one of the Kuala Kangsar trees or one of the Singapore trees. It is impossible to decide which, but I would say that the probability is rather in favour of the former. To be more precise would be purely guessing.

"My father, writing in the *Gardens' Bulletin*, June 1913, 'Early Distribution of Para Rubber Plants', records seeds from Singapore (not Kuala Kangsar) to Sarawak in 1875. Unfortunately, this portion of our *Flora Outward Register* is missing and I can give you no precise date nor quantity".

Thus the credit for introducing rubber into Sarawak goes to Bishop Hone, who was sent one seedling from the Singapore Botanic Gardens in 1882. This seedling was obtained from the first seed crop of the original rubber trees sent to Singapore by Sir Joseph Hooker, Director of Kew Gardens. Whitman, who collected the seeds from Borell for Sir Joseph Hooker, made his collection in 1875. Only six years later, the first rubber tree was being planted in Sarawak.

It is not known what happened to the seeds sent to Sarawak in 1881, but it is probable that the large tree which Mr. Ernest Hone saw in the Residency garden in 1902 was derived from this batch of seeds. This tree was still alive in 1930, but it later fell down.

There remains the *Sarawak Gazette Almanac* reference to three rubber seeds being planted by Bishop Hone in 1881. Any seeds brought in in 1881 must have come from the Kuala Kangsar trees which first fruited in that year.

However, although the Venerable G. F. Hone was Archbishop of Singapore, and Bishop Elect of Labuan, Sarawak and the Brunei in 1881, he did not take up residence in Sarawak until 17th January, 1882. On the 12th January, 1882 the Rajah gave a dinner in the Bishop's honour at the Ayerut, at which most of the "community of Sarawak were present, together with Captain Evans and the Officers of HM's *Lady*" making a total of 24".

It is just possible that the Bishop Elect paid a brief visit to Sarawak in 1881, and brought with him three rubber seeds, but I can find no record of this. In the *Sarawak Gazette* of March 1st, 1881, there is an isolated notice from the *Frederic Rivers* stating that Bishop Hone had just left for London, and that on his return he would take up residence in Sarawak. This he did on the 17th January, 1882, and in December, 1882, was sent the one rubber seedling from the Singapore Botanic Gardens. Thus, I am convinced was the first Almond to enter Sarawak.

The Right Revd. G. F. Hone, D.D., thus deserves to be remembered for his secular, as well as his episcopal achievements. He was Bishop of Sarawak, Singapore and Labuan for twenty-six years, and left Kuching in his 76th year, in 1908. He died in England in 1922.

Mr. Burdhill further states that "The major part of the relatively small seed from the original introduction of seedlings seems to have been used for planting the 21 plantations, the first of which came first bearing by 1888, or thereabouts, and my father records that at this time "The Singapore seed crop was first used up between the Botanic Gardens, Sarawak, Kuala Kangsar, Kuala Lumpur and Malacca."

My chief source of information for the subsequent development of rubber planting in Sarawak has been the volumes of the *Sarawak Gazette* in the Museum Library. I am indebted to the Curator, Mr. Tom Harrison, and the Archivist, Mr. J. Chanar, for allowing me to browse at will over these old records.

The first mention of "Para Rubber" in the *Gazette* was on August 10th, 1880, when the Editor wrote "a really effective experimental garden confined if necessary to a few hitherto untried, or only partially tried, products most especially cinchona, cocoa, tea, Para India-rubber, cinnamon, and last by no means least, Iberian coffee, is becoming a necessity if Sarawak is ever to have a large planting community." In the same *Gazette* there was an article on "Some Trees Yielding India-Rubber". This included a description of the Para Rubber Tree—*Hevea brasiliensis*. Two other rubber-producing plants were described—*Cross*

\*Now the Rock House.

\* A One seed of 3 gms and a complement of 90 mm.

Rubber (*Manihot glaziovii*) and the Central American Rubber Tree (*Castilleja elastica*). It was not known in those days which of the many rubber-producing plants would be the best for cultivation. A gentleman with the improbable name of Loyalty Poake wanted to grow Coara Rubber on Matang in 1883. Writing to the Rajah, he said that he would like to plant out 20 or 30,000 coara rubber. He went on "I can plant them in the present clearings and along the roads and boundaries, they require no care and may turn out of great value, as the demand for rubber at home is exceeding the supply".

In subsequent reports to the Rajah there are no further references to rubber. Loyalty Poake later joined the Government service as a Superintendent of Roads, and was employed for some time on constructing the Pontianak Road. Later he was transferred to the Rajah's Coffee Estate as Manager. In a letter to Loyalty Poake, the Rajah instructed him to concentrate on coffee, tea and cinchona. Subsequent reports to the Rajah rather pathetically show his attempts to reduce upkeep costs of the Estate. Just when his tea and coffee gardens seemed to be achieving some measure of success, Loyalty Poake tragically ended his life by cutting his throat with a knife. He deserves to be remembered, if only for his vision in writing as early as 1883, that rubber "may turn out of great value". However, it was Para Rubber, and not Coara rubber, which turned out to be of great economic importance. At about the turn of the century, the Rajah saw the wisdom of planting Para rubber in Sarawak, and established Experimental Rubber Plantations at Sepu and Satap. In a Report from the Municipal Office to the Rajah in 1908, it is stated that there were 300 trees at Sepu which were seven to ten years old, while at Satap there were 344 trees of the same age. In Kuching Commercial Gardens there were 36 large trees, and along the roads there were 68 large trees, all about 100 years old.

These Experimental Plantations were producing seed in some quantity by 1908. In that year, 44,000 were obtained at Satap, and 15,000 at Sepu. 18,000 of these seeds were sent to the Rajah Muda in Sibiu, others were sent to Kuching, Matang, and Sandakan. Thus by 1908, rubber seeds were being distributed widely from the Experimental Rubber Plantations. Rubber stamps were being advertised for sale in the Gazette in 1910 at \$5.00 per 100, six months old, freight free. By 1908 rubber had been planted in the Upper Rajang for an entry in the Gazette in April of that year stated that the prison gang at Kapi had been working on the rubber plantation. The older trees from Sepu, Satap and Kuching were first tapped in 1905, and most samples were favourably reported on in Singapore. Prices ranged from \$180 to \$200 per plant. The samples were proudly exhibited in the Municipal Office in Kuching for all to see.

The Rajah's policy as far as the development of rubber was concerned was given in a Gazette editorial in 1908, which stated "It is not the intention of the Government to make Rubber Plantations with a view of making them to make them pay, only it is considered advisable to plant some gardens of these trees in different localities as nurseries for producing seed to distribute or sell to those who apply for them or may wish to plant generally throughout the territory. It is also considered that it will be better to let the native part of the population take up the planting of these trees and make as honest livelihood out of the products which would be sold and exported according to their market value. The tree is found to grow on almost all soils and so far as can be seen no enemies except perhaps occasionally white ants in the roots. Rich companies pay their managers rubber salaries and no doubt will soon make use of nurseries which are always dangerous to being liable to pernicious insects and vermin which often cause decay and failure in the trees and crop. Sarawak would be satisfied with a more gradual development, with less capital expended and smaller losses in the case of failure".

In order to encourage the planting of rubber, the Rajah issued the following order in 1908 "No quit rent will be charged on land taken up for planting rubber under provisional grants already issued nor will any quit rent be charged on land taken up for rubber planting in future. In place of quit rent a duty of five per cent of value will be charged on plantation rubber expended on and after 1st January, 1910".

The Rajah was not in favour of the development of rubber estates by outsiders. In a Gazette editorial of 1910, the following occurs "The object of the Sarawak Government is to develop the cultivation of the land for the good of the inhabitants in order that they may have the profits and benefit in the possession of such gardens as an inheritance or *pusaka* to their descendants—and this object would not be achieved or realized unless the plantations were protected and strictly prohibited from falling into the hands of the richer and more speculative class of the white races."

He had, of course, allowed the Borneo Company to develop the Dablan Estate in 1902, and the Sungai Tengah Estate in 1907, but these were the exceptions. (Later, there was to be an Estate at Lawas).

Records of the export of Para Rubber started to appear in the Gazette in June, 1910. The first entry was for 4/25 of a plant, valued at \$67.00. In December of the same year, 2156 plants were exported at a value of \$26,624. The Resident of Upper Sarawak reported that during September, 1910, 5,400 pounds of rubber was produced on the Dablan Estate.

Thus, by 1910, rubber was just beginning to affect the general economy. By then the rubber tree was fairly widely distributed throughout Sarawak, though, with the exception of the two *Coara* nurseries where it was planted on an extensive scale. It had taken twenty-eight years to reach this stage, from the first introduction by Bishop Hogg in 1882. The Bishop's nephew, Mr. Ernest Hogg, was the pioneer of commercial rubber planting in Sarawak, while the Rajah, through his Experimental Rubber Plantations and his policy of encouraging the natives to plant rubber, was chiefly responsible for the spread of the new crop to all parts of Sarawak, in a relatively short space of time.

## Excerpts from the Annual Report of the Department of Agriculture for 1962

### AGRICULTURE, LIVESTOCK AND FISHERIES IN SARAWAK

#### Weather

In 1962 rainfall generally exceeded the average. Kuching experienced over 80 inches of rain in the first three months of the year and there was serious flooding in First Division where an estimated 1,800 acres of wet paddy was destroyed. Pepper gardens also suffered damage in Bua, Serian and Lundu Districts. Elsewhere there was slight flooding in the Mirik District of Third Division in February and again in the Kapit, Sibiu and Mirik Districts in October, damage to crops was, however, negligible. In Fourth Division, the Sarawak and Trusan rivers flooded in March, May and August causing losses of young rubber and coconut seedlings and bananas.

The predominantly wet weather rendered the burning of hill paddy areas for the 1962/63 crops difficult. The burn was generally poor and although light rains subsequent to clearing were favourable, crop prospects are not good. Conditions, on the other hand, favoured the wet paddy planter and a good crop is anticipated.

#### Crop Reports

##### 10 RUBBER

In Sarawak, more interest is manifest in rubber than in any other crop and, based upon the findings of the Agricultural Census carried out in 1960, the total estimated area planted at the end of 1962 was 364,300 acres. The industry has never developed to any signi-

tenant extent on an estate basis and is essentially small-holding in character,—there are only five large estates with an aggregate acreage of 11,500 (8,150 acres planted), while holdings in the range 100–1,000 acres are equally few. While there can be little doubt that, under Sarawak conditions, rubber has as equal as a smallholder's crop, the absence of an efficient estate industry which might influence methods of production, is apparent. Thus, traditionally, the crop is poorly planted, often on low-lying peat soils totally unsuited to rubber, maintenance is sub-standard, tapping and processing primitive, and the end product one of excessive thickness, contaminated with dirt and mould, and of low quality. Some 70% per cent of the planted area represents high-yielding rubber. Little of this, however, has as yet come into production. The balance comprises old seedling rubber nearing the end of its economic life, and so lacking in tappable bark as to provide only meagre income, or young seedling trees, planted indiscriminately, which may or may not survive to maturity.

The crop is marketed through licensed dealers, registered exporters and owner exporters, as sheet or blister craps. Sheet is usually sold unconsolidated and, although marketing is carried out by the dealer prior to export, grades higher than R.S.S.\* No. 3, 4 or 5 are rarely obtained. During 1962, licensed dealers, who are usually money merchants, numbered 1,246 and registered exporters and owner exporters twenty-nine.

1962 can be classed as only fair for the rubber producer. Opening at \$93 per pikul at the commencement of the year, the price, based upon that quoted for evaluation of export duty, stood at \$99 at the year's end after fluctuating around a mean of \$92 with a maximum of \$100 in February and a minimum of \$86 in August. Production totalled 41,806 tons, valued at \$21,990,147 and representing 48 per cent of total revenue exclusive of petroleum products, was some 1,000 tons down on that of 1961. A study of 1962 exports by destination reveals that 68 per cent of the crop was sent to Singapore, 10 per cent to Japan and six per cent to Hong Kong while small quantities were shipped to Aden, United Kingdom and Germany.

In the immediate post-war era, natural rubber in Sarawak was considered, in the face of synthetic, a fading asset. In consequence, energies were directed towards the search for crops alternative to it, and it was not until the introduction of a subsidized Rubber Planting Scheme in 1956 that any attempt was made to rehabilitate the industry. Commencing with the object of planting an area of 10,000 acres with high-yielding rubber by the end of 1959 at a cost of 45 million dollars, progress has been such that this target has now been increased to 80,000 acres to be planted by the end of 1963 and a sum of \$55,400,000 set aside for this purpose in the 1959-63 Development Plan. The scheme is open to all races and provides for the establishment of new holdings and the replanting of existing uneconomic holdings. Subsidies, in cash and in kind, are payable to the value of \$150 per acre in the case of new planting and \$450 in respect of replanting. In addition, all land charges, associated with new planting, with the exception of quit rent, are a charge against Rubber Planting Scheme funds. Since the beginning of 1959, a proportion of the total cost of the scheme has been derived from a cess of two cents per pound levied on all rubber exported from the territory and during 1962 a total of \$1,980,048 was collected from this source. It may be mentioned here, however, that at the end of 1962 a total of 66,150 acres had been planted and was being maintained in accordance with the rules of the Scheme in the proportion of 99:7 new planting to replanting.

At its inception, the Rubber Planting Scheme was considered sufficiently important to warrant the establishment of a specific Branch of the Department to ensure its implementation. In addition to the production and distribution of planting material, the inspection of land and the supervision of planting and maintenance, this Branch is rapidly adopting the role of an advisory service dealing with all aspects of the industry. Concerned in these activities are recommendations and demonstrations of disease and weed control measures and the correct method of opening and tapping a new panel; the introduction of ladder-tapping on old trees where poor tapping in the past has rendered panels at normal level useless for further latex production; and the improvement of the quality of sheet produced. This latter aspect is considered of major importance in view of the losses which accrue to the producer, and indirectly to Government, consequent upon the export of a low grade product.

For reasons of administration, lack of communications and the limited staff available, it has been necessary to confine the Rubber Planting Scheme to the more accessible areas of the territory. In order however, to assist farmers and to encourage the planting of high-yielding as opposed to ordinary seedling rubber, in the more remote areas, an Assisted Rubber Planting Scheme was launched in September, 1960. Benefits under the assisted scheme are restricted to instruction, given at selected centres, in land selection and preparation for rubber planting, and the free issue of quality planting material and fertilizer, sufficient, in the first instance for one acre. Thereafter planting and maintenance are the responsibility of the farmer. Where these are up to standard, however, materials for the planting of a further two acres are issued thus creating a holding of the minimum economic size. The Assisted Scheme has met with a good response and to date a total of 780,608 stamps sufficient for the planting of 1,965 acres together with 174 tons of fertilizer have been issued.

The Government of Sarawak contributes to the Rubber Research Institute of Malaya and has access to the resources of the Institute in all aspects of the industry. The Department does not, therefore, undertake research work in respect of the rubber crop.

#### 54. RICE

Rice provides the staple food for most of the indigenous people. With some 70 per cent of the farming population engaged in its production at both wet and dry paddy it is the predominant crop in Sarawak. Agriculture, and, in most areas, takes precedence over everything else. Approximately two-thirds of the crop is grown in dry paddy on the steep slopes of the interior following a system of bush-fallow and makes such demands upon the efforts of the farm family as to provide little opportunity for other pursuits. Despite this, however, and the low returns obtained, dry paddy production is an integral part of the way of life of the people concerned and it must be accepted that the bush-fallow system will continue to be followed for some very considerable time to come. There is, on the other hand, little tradition associated with the growing of wet paddy. An abundance of rice land on alluvial levels, deltas and coastal flats allied to poor natural drainage which makes animal cultivation and hence the suppression of weed growth, difficult, has resulted in land being cultivated only once in several years. Little or no effort is made towards banding or the construction of drainage or irrigation systems; land is not allowed to dry out in the off-season and acid soil conditions prevail. Hand cultivation is rudimentary and yields, by world standards, are extremely low. Departmental efforts towards the improvement of wet paddy cultivation are manifest in the Assistance to Paddy Planters, and Buffalo Training and Distribution Schemes, the Free Pest Control Service, and material, varietal and method of cultivation experiments.

\* R.S.S. = Refined Smoked Sheet.

In 1962 a total of 251,990 acres of *paai* is estimated to have been harvested, 181,600 as dry and 180,900 as wet *paai*, producing an estimated 180,215 tons of *paai* or 60,154 tons of rice. Dry *paai* yielded an estimated average of 120 gainings (600 pounds) per acre which may be considered a reasonable return under Sarawak conditions. The average yield of wet *paai* was estimated at 150 gainings (1,500 pounds) which illustrates the vast scope which exists for improvement. Total production represented some 54 per cent of requirements, the balance of 51,235 tons having been imported.

Although certain more favourably selected areas produce a surplus of *paai*, the sale of which is prevented by Government purchase at a supported price which stood at \$12.50 in the first half and \$11 per pail in the second half of the year. The Agricultural Census of 1960 indicated that only 30 per cent of all holdings growing rice produced sufficient for family needs. In 1962, a total of 41 tons of *paai* was purchased at Government Centres.

Prospects for the 1962/63 wet *paai* crop were good at the year's end, it seemed likely, however, the dry *paai* crop would be below average consequent upon a poor burn prior to planting in most areas.

#### (iii) RUBBER.

Second in importance to rubber as a cash crop, pepper is estimated to occupy an area of just over 7,000 acres. Production is traditionally the domain of the Chinese smallholder: pepper gardens average two-thirds to three-quarters of an acre in area and the system of cultivation practised is probably the most intensive of any pepper producing country in the world. Close weeding is the rule whether grown on hillside or on the flat, terracing is not generally practised but is gaining popularity and yield is related to the type and quantity of fertilizer used. Planting is speculative, and, together with standards of maintenance, is associated closely with price trends. High prices dictate a flurry of new planting; when low prices prevail, new planting ceases and the less economically viable gardens are abandoned and go out of production. Kuching, Bako and Serian Districts of the First Division and the Serikin and Baining Districts of the Third Division are the most important producing centres while less extensive areas are cultivated in Second and Fourth Divisions. Although predominantly the sphere of the Chinese farmer, the interest being drawn by the indigenous races of the country, especially Land Dayak in First and Iban and Melanau in Third Division, in pepper planting in recent years is significant. Shortage of capital for the purchase of hardware tools and fertilizer, however, militates against an economic return while the annual advent of dry *paai* planting dictates neglect where intensive maintenance is required. Nevertheless, the native cultivator is more receptive of Departmental advice than his Chinese counterpart and it is possible that in the future his adoption of improved cultural methods may, to some extent, offset his lack of capital. It is perhaps of interest to note that the application to the pepper vine of soil taken from under the longhouse, in lieu of orthodox fertilizer, has given good results.

As regards price, the trend during 1962 was one of steady decline and with the exception of the indigenous races there was little interest in new planting. Opening at \$145 and \$118 for white and black pepper respectively, prices rose slightly during February and March but thereafter fell with minor fluctuations to stand at \$110 for white and \$85 for black at the year's end. Nevertheless, combined exports of black and white pepper totalling 11,254 tons reached the highest level since 1953 which may be attributed to the areas planted in 1959 and 1960, when prices were high, coming into production. The main world trade statistics for pepper are shown in the following table:—

|         | Sarawak | India   | Indonesia | Rest    | Total   |
|---------|---------|---------|-----------|---------|---------|
| 1953 to |         |         |           |         |         |
| 1959 —  | 2,700   | 1,120   | 20,900    | 4,820   | 29,540  |
| 1959 —  | 4,800   | 10,000  | 6,800     | 1,500   | 23,100  |
| 1959 —  | 9,000   | 11,600  | 7,500     | 1,000   | 29,100  |
| 1959 —  | 10,000  | 15,500  | 12,400    | 800     | 44,700  |
| 1959 —  | 18,300  | 15,500  | 15,120    | 13,000  | 61,920  |
| 1959 —  | 19,800  | 15,500  | 18,600    | 1,500   | 55,400  |
| 1959 —  | 31,150  | 18,400  | 22,500    | 2,500   | 75,550  |
| 1959 —  | 9,700   | 14,000  | 20,000    | 2,500   | 46,200  |
| 1959 —  | 8,450   | 15,215  | 41,500    | 4,800   | 70,965  |
| 1959 —  | 4,104   | 18,435  | 14,207    | 4,800   | 41,546  |
| 1960 —  | 10,034  | 17,104  | 25,553    | 5,324   | 58,015  |
| 1962 —  | 11,150  | 20,000* | 17,627*   | 14,612* | 73,389* |

\*Provisional figures.

\*Compiled from the Foreign Agricultural Circular 1962 U.S. Department of Agriculture, Washington, D.C.

The price differential between white and black pepper determines the relative exports of each in any given year. During 1962 the differential was in favour of black and the quantity of pepper exported in this form increased accordingly. The variation in the proportion of the different types exported from Sarawak over recent years is as follows (figures to the nearest ton):—

|        | White | Black  | Total  |
|--------|-------|--------|--------|
| 1959 — | 1,200 | 1,600  | 2,800  |
| 1959 — | 2,715 | 11,750 | 14,465 |
| 1959 — | 2,100 | 13,000 | 15,100 |
| 1959 — | 2,700 | 17,000 | 19,700 |
| 1959 — | 2,200 | 11,441 | 13,641 |
| 1959 — | 3,117 | 4,889  | 8,006  |
| 1959 — | 6,362 | 1,887  | 8,249  |
| 1959 — | 3,200 | 707    | 3,907  |
| 1959 — | 1,600 | 1,500  | 3,100  |
| 1959 — | 4,040 | 4,600  | 8,640  |

Some 75 per cent of total pepper exports went to Singapore as compared with 80 per cent in 1961, 94 per cent in 1960 and 92 per cent in 1959.

The popularity of machinery, installed at Serikin (Third Division) in 1959, for cleaning and grading pepper, has continued to increase as have the facilities for storage and short term credit provided by the Sarawak Development Finance Corporation which enable the Sarawak producer to sell his pepper at the most favourable price. Cleaning and grading plant was in regular use, and a total of 832 tons of pepper passed through the Serikin store against which \$1,341,900 was issued in the form of short term advances. A drying installation for use in association with the cleaning and grading plant, however, has as yet to gain popularity and is unlikely to do so until a definite premium is offering for well dried pepper. The matter of quality in pepper in relation to moisture content was under investigation at the year's end.

#### (iv) SAGO

One of the country's major revenue earning commodities in the last century, the importance of sago in the economy has declined in recent years. The palm occurs widely throughout the territory and cash income is derived from the sale of sago flour. It is, however, in the Mukah, Oya, Bako and Matu Districts of the Third and the Belaga, Serikin and Pusa Districts of the Second Division that the fibre industry is chiefly centred. In these regions, deep peat swamp predominance and areas suited to alternative crops are few; drainage also presents a serious problem. The area under sago has previously been assumed in the region of 125,000 acres. Data arising from the 1960 Census of Agriculture, however, indicate a figure of 90,000 acres to be a more reliable estimate.

In recent years prices have remained uniformly low, there is no planned planting and natural regeneration is the order of the day. The working of the crop,

once a full-time cottage industry, has tended to devolve more and more upon the whims of the communities involved, or to be taken over in its entirety by the saw factory owner, while makeshift work outside employment to supplement income. The presence of a flourishing timber industry in saw-producing areas has been fortuitous in this latter respect; indications are, however, that this has now passed its peak and is on the wane. Processing methods, although mechanized in accordance with local inventive genius, are crude, the drying process being reduced to a minimum with the resultant product of low quality.

Despite the state of depression in which the industry stands, saw exports have risen steadily in recent years and totalled 31,982 tons valued at \$4,189,921 in 1962 as compared to 24,495 tons in 1960 and 19,365 tons in 1960. This, however, merely reflects the lack of alternative sources of income in the areas concerned. It should be noted that no export duty is levied in respect of saws alone.

#### (c) COCONUTS

The area of coconuts in Sarawak at the end of 1962 was estimated to total 34,580 acres. There are no estates and, although the palm is widespread, smallholdings are concentrated mainly in First and Second Divisions, where the production of coconuts and the sale of fresh nuts are of economic importance. Elsewhere smallholdings are few but the palm is planted in the vicinity of houses to provide nuts for domestic use. It is noteworthy that in many areas the numbers of fresh nuts reaching the market are inadequate and prices in consequence inflated.

Holdings average between five and ten acres in area, but larger holdings of up to 100 acres are known to exist. Palms in general are old and many are approaching the end of their economic life. Standards of maintenance vary but are generally poor and little attention is paid to drainage—a matter of the utmost importance on the much soils of coastal Sarawak. Coconuts are produced in crude, open-bush like which are often "bush first", drying time is inadequate and the quality of the nut and product which is entirely absorbed in the local coconut oil industry, is poor. Eight oil mills of various sizes are in operation in Kuching which, in addition to supplying a substantial level demand for both refined and crude oil, have since the abolition of export duty on coconut oil in 1948, produced a surplus for export. During the year, the local market absorbed an increased proportion of total production and exports fell to 1,575 tons as compared with 3,125 tons in 1961.

It is clear that very considerable scope exists for development in respect of this crop and measures taken towards this end are to be seen in the subvented Coconut Planting Scheme, the progress of which is described later.

#### (d) OIL PALM

There is abundant evidence that the oil palm will grow in Sarawak where it is found widely scattered as an ornamental or in isolated clumps which often mark an old house site. These palms grow and fruit well despite of almost complete neglect and the possibilities of palm oil as an export commodity and the value of the crop as an addition to the territory's weakly diversified economy is recognized.

After soil survey, a suitable area of land suited to oil palm was located in Fifth Division in 1958 and plans were drawn up for the establishment of a twenty-acre pilot project to be undertaken jointly by Government and a subsidiary of the Commonwealth Development Corporation. The area was fenced and drained, a perimeter band constructed and the first seedlings planted in 1961. The balance of the area was planted up in 1962 and leguminous covers established. Growth at the year's end was most satisfactory. Should this pilot undertaking prove a success, it is intended that an area of some 3,000 acres to be developed as an estate

basis thus providing for an efficient up-to-date factory. Further development in the form of smallholdings would follow.

Subsequent soil investigations have revealed the existence of suitable areas of land suited to oil palm production in Fourth Division. Lack of communications, however, prevents immediate development.

#### (e) MINOR CROPS

A considerable variety of minor crops is grown in association with the production of dry padi. Commercial vegetable growing is traditionally the province of the Chinese market gardener operating in the vicinity of the larger towns. Under the stimulus of the Department's extension programme, however, substantial quantities of vegetables are being produced from commercial vegetable gardens worked by Dayak and Malay women. Produce is primarily for home consumption but surplus production is a useful source of supplementary income. Sweet potatoes, tapio, yams and groundnuts are widely grown as food supplements and maize, widely grown to a limited extent as a cash crop in all but Third Division plays an important part in tying the farmer over until paddy harvest. Bananas are grown extensively while water melons is an important seasonal cash crop in coastal areas as is the pineapple in areas where paddy predominates.

Fruit cultivation is general but trees are usually scattered. Quality is poor and due to localization of climate, fruiting is irregular. Produce is largely consumed in the home but in good seasons local sale can add very substantially to income. There is considerable variety including durian, rambutan, langsat, mangrove, mango. The demand for quality planting material particularly budded rambutan and durian is almost insatiable. Citrus—mainly oranges and pomelo—is the exception to scattered planting and suitable compact blocks grows on an intensive scale are to be found in Sarawak and Bintulu districts of Third, and the Bako and Serapi districts of First Division. Citrus production in Bintulu district represents considerable capital investment and the opening of a factory for bottling fruit juice in Bintulu town towards the end of 1962 should act as a stimulus to further development. The 1961/62 fruit season, in contrast to that of 1961/62, was very poor.

In recent years there has been a sustained interest in coffee planting both as small gardens in the vicinity of houses and by interplanting newly opened coconut holdings.

Low-grade tobacco is grown on a small scale in First, Third and Fourth Divisions and the establishment of a cigarette factory at Sibu in 1959 seemed indicative of future development as regards this crop. In the event, however, this has not come to pass. Prices offered for locally cured tobacco have remained low and curing barns set up in Third and Fourth Divisions have ceased to operate to any significant extent.

#### (f) MISCELLANEOUS CROPS

Soya beans, groundnuts, Apok, drier, drier, ginger, manioc and shallots are grown on a small scale. Production of the last four is often associated with slash-cropping in newly opened pepper gardens and the volume of production is to some extent dependent upon current interest in pepper planting.

#### (g) PORTULACA

Workable deposits of gum are found in crops in numerous limestone outcrops, but only in the Gama Caves at Niah are deposits worked commercially to any extent. Extraction is permissible under Local Authority Licence and during the year a total of 3,500 tons was extracted of which 160 tons were exported. Given that of variable quality is produced in coastal districts during the appropriate season.

Although soils are inherently poor the average Sarawak farmer is not fertilizer-minded nor has he the necessary financial resources for its purchase.

Exceptions to this are the Chinese market gardener and pepper growers. Both, however, have their own traditional methods in which economy is the keynote. It is only, therefore, with the advent of the substandard Rubber Planting Scheme, and to a lesser extent the Department's experimental programme in connection with the rice crop, that any appreciation of the value of fertilizers in the orthodox sense has arisen. Such interest is as yet small; the pepper farmer, however, is beginning to realize that under Sarawak conditions his crop depends upon the use of fertilizer and his profit upon the judicious blend or type of fertilizer, quantity and price.

As a consequence of low prices offering for export crops, particularly pepper during 1962, fertilizer imports fell to a total of 14,425 tons classified as artificial (11,322 tons) and natural (3,103 tons) as compared with 17,944 tons in 1961.

#### Livestock

In general, livestock play but a minor role in the agricultural economy of Sarawak. Exceptions to this are pig and poultry raising in the vicinity of the larger towns which, employing reasonable standards of housing and management, represent comparatively big business.

Livestock census figures at the end of 1962 indicated the numbers and dispersal of the more important stock as follows:—

| Division       | Buffaloes     | Cattle        | Pigs           | Goats         |
|----------------|---------------|---------------|----------------|---------------|
| First          | 114           | 1,261         | 20,000         | 4,210         |
| Second         | 646           | 1,324         | 91,945         | 1,361         |
| Third          | 428           | 5,879         | 111,798        | 1,777         |
| Fourth         | 1,625         | 1,248         | 35,158         | 1,665         |
| Fifth          | 36,110        | 484           | 17,794         | 647           |
| <b>Total</b>   | <b>18,223</b> | <b>10,111</b> | <b>285,715</b> | <b>12,711</b> |
| 1964 Estimates | 5,892         | 7,629         | 215,840        | 1,819         |

Having regard to the difficulties of enumeration under Sarawak conditions, the figures given are approximate and are more indicative of trends than actual totals. There is no doubt that numbers of pigs and poultry are increasing steadily. With all classes of stock, however, where large increases in numbers are shown this is attributable in some measure to more efficient recording.

Small numbers of cattle are kept on the drier sandy coastal stretches and upriver Daupis in First, Second and Third Divisions maintain small numbers often on a communal basis. Nowhere, however, is there any attempt at management; animals are permitted to roam at will, in-breeding is often the rule, and the proportion of males to females is high. Lack of capital on the part of the owners makes improvement difficult. A number of small dairy herds are to be found in First, Third and Fourth Divisions. Animals are well-fed and maintain fair condition; milk production, however, is low and the general conditions of housing, hygiene, and milk handling, unsatisfactory.

In view of the country's very small cattle population, the control of the export and slaughter of female cattle is vested in the Department of Agriculture under the Miscellaneous Licences (Slaughter and Export of Female Cattle) Regulations, 1961, which ensures to some extent that there will be no undue decrease in future breeding stock.

Of the estimated total of twelve thousand wild buffaloes, the vast majority are to be found in Fifth Division. These, however, are kept largely as an indication of social standing. Their role for meat provides a ready source of income when the necessity arises but being, in the main, untrained and semi-wild, they are only rarely used in wet rice cultivation. The complete imbalance in the distribution of buffaloes throughout the country and the lack of interest in their use for the cultivation of paddy fields are matters which are deserving attention in the form of a substandard Buffalo

Training and Distribution Scheme. Although locally produced cattle and buffaloes do enter the local market, the small quantity of beef and mutton consumed in Sarawak is mainly imported, the former on the hoof from Singapore, and to a lesser extent from North Borneo and Brunei.

Considerable numbers of pigs are kept by Non-Malay races in the rural areas. Although of fairly indigenous breed, there are little more than scavengers. They do, however, provide for the inclusion of protein in a predominantly carbohydrate diet while periodic cash sales furnish an element of income. While this overall position is unsatisfactory it is noteworthy that under the guidance of extension teams farmers are beginning to attempt to house, feed and manage their pigs. In the absence of a ready source of cheap protein for inclusion in animal feed improvement in general standards of husbandry must be slow. Near the larger towns, however, pork production is comparatively well organized and the possibilities for expansion are considerable. Almost exclusively in the hands of Chinese, the typical unit comprises from five to ten head of breeding stock, although larger units are gaining in popularity. Standards of housing and management are reasonable while feeding is based largely upon refuse, which is readily available from the many coffee shops which abound in urban centres. The use of proprietary high protein rationes some locally mixed from imported ingredients is gaining in popularity. The industry is based upon the traditional Chinese pig bred to a greater or lesser degree with exotic blood of the Berkshire, Middle White and Tamworth breeds emanating from the Department's piggery. The former provides "mother" qualities and the latter early maturity and leaner pork. Current Departmental policy places reliance upon the production and issue of one exotic breed only, namely the Berkshires, for crossing with the traditional Chinese for the production of cross-bred fatteners. A small unit of the Chinese type pig is maintained at Seremuggok Agricultural Station, First Division, and progeny are available for issue to farmers as an assurance against the loss of the excellent mothering qualities of this breed. It is appreciated that Departmental piggeries are unable to meet fully the demand for exotic breeding stock and indeed it would be against commercial interest to attempt to do so. To encourage the production of pure bred breeding stock from private sources a Scheme for Substandard Commercial Piggeries was introduced during the year.

Poultry, mainly of a fairly indigenous breed, are universal in rural areas but standards of housing, feeding, and management are low and their use for ordinary purposes is confined to special occasions. As with pigs, however, poultry-raising is comparatively big business in the vicinity of the larger towns where commercial units comprising from 100 to 3,000 birds, kept under intensive conditions are to be found. Management and housing, either in batteries or on setting wire in enclosed houses, are good and feeding is based upon proprietary imported or locally mixed mash. The farmers concerned, predominantly Chinese, have a ready appreciation of the importance of disease and many are equipped to carry out their own prophylactic and remedial treatments. The White Leghorns breed is the most popular but Rhode Island Red, New Hampshire and Australorp are also to be seen. Hatching eggs other than those locally produced are imported from Australia and Japan, while day-old chicks are supplied from efficient hatcheries operating in Kuching, Sibu and Miri.

With the exception of exports from Miri to Brunei which totalled some 432,480 eggs during 1962, production is exclusively to meet local demand. To protect the local producer, all eggs imported into Sarawak must be stamped as such.



The numbers of livestock imported during 1962 as compared with previous years were:—

| Cross of stock       | 1959       | 1960       | 1961       | 1962       | 1963       |
|----------------------|------------|------------|------------|------------|------------|
| Cattle and buffaloes | 50         | 60         | 1,200      | 1,111      | 1,200      |
| Pigs                 | 7,437      | 9,000      | 11,000     | 15,000     | 16,000     |
| Poultry              | 50,000     | 60,000     | 75,000     | 10,000     | 10,000     |
| Sheep                | 10,000,000 | 10,000,000 | 10,000,000 | 10,000,000 | 10,000,000 |

The demand for beef is small but steady and imports of cattle and buffaloes for slaughter remain fairly constant. Imports of pigs tend to fluctuate with the price of the principal export commodities and the volume of local pork production. Although increasing local production is considered to have made a contribution, the marked reduction in the number of pigs imported in 1962 is, in the main, a reflection of the low prices offering for rubber and pepper during the year. Imports of poultry and eggs are indicative of the scope which exists for expansion in the local industry.

The Public Health Ordinance enacted in November, 1962, and scheduled to come into force on the first of January, 1963, will henceforth enable a greater degree of control to be exercised over the livestock products imported for human consumption.

Goats are not numerous and are found mainly in Malay and Dyak Communities. Little attention is paid to management. They provide a useful source of meat on special occasions but do not form an integral part of the diet.

No cases of Rabies, Rinderpest, Foot and Mouth disease, Swine Fever or other major zoonoses occurred and Government policy continued to include the strict control or prohibition of imports of livestock from territories where such diseases are known or likely to exist.

#### Freshwater Fisheries

A comparatively recently development in Sarawak, the importance of freshwater fish culture cannot be over emphasised. It proves a source of protein in rural areas where protein deficiency is endemic and cash income near centres of population, particularly during the North East Monsoon when sea fishing comes to a virtual standstill.

Previously the field of a few Chinese specialists, the planned development of freshwater fisheries in Sarawak commenced in 1957, primarily as a means of utilising low-lying areas of land unsuited for productive agriculture. The practice rapidly found a place in the rural economy, is now nationwide and involves every racial group in the country. Commencing with *Tilapia mossambica* and *Trichopterus* presently the number of species available for free distribution to farmers has tripled while others are under investigation to assess their suitability under Sarawak conditions. Pond size is increasing and the construction of ponds in excess of an acre in area, on a communal basis by longhouse communities is gaining in popularity. In addition, attention is paid to the rough release of fish fry in lakes, ponds, running pools and pool fields.

#### Agricultural Census 1962

The final report on the sample Census of Agriculture conducted in conjunction with the Food and Agriculture Organisation World Census Programme 1960 was published in the latter part of the year. The results may be regarded as moderately successful in achieving comprehensive information about the crops grown and systems of agriculture practised in Sarawak, after taking into consideration the varying agricultural systems, different racial communities, difficult terrain and poor communications.

#### SEASONAL CROPS

Padi—Padi is the predominant annual food crop with maize and other subsidiary food crops interspersed with hill padi to a limited extent. A combination of data derived from the census and local knowledge was used to estimate 1959/1960 seasonal acreage of wet padi at 81,000 acres and hill padi at 157,600 (total

240,600 acres). This figure has been used as a basis of padi acreage estimation in subsequent years and the estimated acreage for the 1961/62 season was 281,000 acres. The average acreage per holding for wet padi is calculated to be 2.5 acres and that for hill padi 2.8, while 1.1 acres is the average of both in one holding. The area of irrigated padi is negligible at 2 per cent. The inadequacy of padi production to meet family requirements is emphasised.

After seasonal crops—Groundnuts, soyab beans, sweet potato and tobacco are very minor crops while the cultivation of vegetables is mainly carried out on an intensive scale near towns.

#### PERMANENT CROPS

Rubber is shown to be the most widely grown permanent crop with sage, coconuts, fruit and pepper following in order of acreage. The economic value of these crops in terms of exports may be seen by reference, but sago is manufactured locally into edible oil and sago waste fruits are consumed locally. Coffee and latex are of only very minor importance.

Rubber—The estimate of rubber acreage made by the census was too high to be accepted and after taking into consideration all available evidence, the figure of 335,500 acres was taken as being the best estimate of the territory's rubber acreage in July 1960. Clonal rubber was 13 per cent of the total, mostly immature and planted under the government subsidised Rubber Planting Scheme but it was not possible to assess accurately the ratio of mature to immature rubber. The most important rubber growing districts in order of acreage were Kanowit, Sibu (Rural), Kuching (Rural), Serian, Bintang, Igan, Kuching, Serikin and Melak.

Coconuts—The estimate of coconut acreage in 1960 was placed at 45,000 acres, mostly in the Kuching (Rural) and Serian districts of the First Division. The census estimate was not accepted as it stood but adjusted after considering available evidence of acreage derived from aerial photographs.

Sago—As with coconuts the census estimate of area under sago was too low when available evidence from aerial photographs was studied and it was decided that 90,000 was the best estimate of sago acreage that could be made in 1960. The Melak district in the Third Division is by far the most important producing area followed by the Serian district in the Second Division.

Pepper—The census estimate of the area under pepper was 7,175 acres, 63.4 per cent of which was mature and in bearing. Holdings averaged three-quarters of an acre and the most important pepper growing districts were Kuching (Rural) and Serian districts in the First Division and the Serikin district in Third Division. As sample survey of the pepper industry undertaken by Dr. K. R. Choo and Mrs. L. H. Choo in 1959 is summarised in the 1959 Annual Report of the Department of Agriculture and supplies the evidence obtained from the census.

Fruit—Bananas and citrus, mainly temperate and pomelo, are the most important fruit crops, the latter being grown on an intensive scale in the Bintang district of the Third Division. Pineapples are widely grown but not on a plantation scale.

#### LIVESTOCK

There is some similarity between the census estimates of livestock population and the Department of Agriculture estimates but it must be accepted that livestock numbers have a high degree of error. The significant points are the much greater importance of pigs than any other type of livestock and the much larger number of buffaloes in the Fifth than in any other Division. The Kuching district of the Second Division is the most important for cattle.

Agitation—The male to female ratio is 1:2 and animals over three years of age comprise 65 per cent of the total.

**Cattle**—The ratio of male to female cattle over two years old was 1:2.7 while 31 per cent of all animals were under two years old. Apart from a few town districts, cattle are raised for beef and grass on free range with a minimum of management and no supplementary feeding.

**Pigs**—There were an estimated 202 pigs per 100 holdings and 39 per cent of all animals over six months old. Improved pigs constituted only 21 per cent of the total, the remainder being animals living under and around longhouses as scavengers.

**Poultry**—Poultry constituted 91 per cent of the poultry population, the remainder being ducks and geese. Birds per 100 farm households numbered 1,394.

#### POWER

The use of animals and machines is negligible except in the Fifth Division where bullocks are employed for crude land preparation for wet paddy.

#### MARKETING

Interest hawken play an important part in the marketing of agricultural products, particularly rubber grown in the more remote areas. In the First Division, however, where the road system is more developed, this is not the case. A great deal of agricultural produce has to be carried on foot to market, riverbank or roadside, often over considerable distances. The importance of river transport is clearly emphasized where the road system is rudimentary or non-existent.

**Padi**—A mere 9.6 per cent of padi-growing farms sell any surplus and the significant fact that only 15.9 per cent had sufficient for family food requirements emerges. The bare subsistence level of a great deal of farming in Sarawak is again proved and the census provides a useful indication of the areas short of food.

**Rubber**—The low quality of Sarawak rubber is emphasized; only 18 per cent of holdings produced smoked sheet, the remainder being thick rubber sheet crudely produced in the most primitive circumstances. The few Sarawak rubber estates attain normal standards of quality without difficulty.

**Cocoa**—The main cocoa growing areas in the First Division produce practically all the copra for manufacture. Cocoa in other areas are either used for domestic consumption or a trade in green nuts.

**Pepper**—The marketing of pepper is not covered in detail by the census and is a complicated matter affected by the trade markets of the world.

**Sago**—More than half of the sago producers in the main producing area of Mahak will part of their produce for manufacture into an exportable product but in other areas the greater proportion is for home consumption and the feeding of livestock. Most sago is sold as unrefined flour (*lawasak*) but many sell as logs and at汶里 there is a small output of pearl sago.

#### Extension

By 1958 it had become apparent that, in Sarawak, where the farmer is uneducated, bound by tradition—often to a system of agriculture which is not readily amenable to improvement—and highly conservative, an agricultural extension service which confined its activities to the provision of specific services and general advice was inadequate. It was clear that if genuine rural development was to be achieved, extension services must provide, in so far as is possible, for all aspects of rural life and be applied in co-ordinated form. Accordingly, therefore, a policy was adopted wherein agricultural extension is considered in the context of an informal education designed to change the attitudes and practices, not only of the farmer but of the farm family, and wherever possible the farm community as a whole.

Implementation of this policy, which was in the first instance experimental, envisaged the employment of specially trained staff both male and female, operating as teams comprising one male (Junior Agricultural Assistant) and one female (Home Demonstrator) in localized areas wherein such teams dealt with a limited number of villages or longhouses. After a simple initial socio-economic survey a programme of development, which conforms with the wishes of the people, is drawn up and the team, through such local leadership as might be available, guides this programme to fruition. As programmes advance and local leadership develops, the degree of guidance required of the team progressively lessens, thus permitting additional villages to be brought within its orbit and spreading the service.

To this end specialized re-educational training of staff, to which reference is made in the next subsection, commenced in 1958 and the first trained personnel became available for field posting in 1960. In 1962, after allowing for wastage, a total of twenty-one Junior Agricultural Assistants and twenty Home Demonstrators were posted as teams in twenty areas spread over the First, Second, Third, and in total sixteen other. Fourth, Division, while a further eighteen members of staff, eight men and ten women, were under training and scheduled for field posting early in 1963. The initiation of an extension service in the pattern described has not been without difficulty. As a new concept, its aims and objectives were imperfectly understood both by the farming community and by Departmental staff, other than those who had received specialized training in it. Errors were, therefore, made in the initial selection of areas wherein this extension service might be expected to succeed and for reasons of lack of co-operation from the people concerned, lack of development potential in the area selected or the impracticability of supervision due to inaccessibility, it was necessary in some instances to withdraw teams after an experimental period. During 1962, however, many of the initial problems had been overcome. The service, though still small in relation to Sarawak's requirements, was firmly established and its success may be gauged from the fact that the demand from rural communities for extension teams simply cannot be met with existing training facilities.

Projects carried through by extension teams have been designed to bring about improvement in housing conditions, nutrition, personal self-sufficiency and cash income and have included such varied undertakings as fish pond construction and freshwater fish culture; vegetable, fruit, wet paddy and pepper cultivation; pest control and the prophylactic treatment of livestock; plastering, maintenance and processing rubber; improved nutrition through cooking demonstrations using locally produced foods, in particular vegetables; garment making, village hygiene and child welfare, as well as community projects concerned with the making of cycle tracks, building of bridges, the installation of simple water supplies and the construction of pit latrines.

While fish pond construction and fish culture in the case of men and sewing in the case of women continued to maintain pride of place in regard to project popularity, of particular significance during 1962 were advances made in vegetable cultivation, fruit tree propagation and *Jampang* hygiene. Almost every village or longhouse associated with an extension team has had a plentiful supply of vegetables from communal gardens run principally by the women; communal and individually owned fruit seedling nurseries have been laid down for subsequent building and the production of quality fruit as a source of cash income, while with the co-operation of the Medical Department and local District Councils in assisting with both design and materials the construction of pit latrines, a necessary first step in any effort to promote *Jampang* hygiene, has made rapid strides.

Since its inception, the absence of adequately trained supervisory staff in the Extension Branch has been a barrier to maximum progress, and without the efforts

of normal agricultural field staff operating on a "learn from experience" basis progress in any form would have been impossible. The return during the year of three members of staff, two Agricultural Assistants (male) and one Agricultural Assistant (female) from courses in extension training overseas effected some improvement although this was offset to some extent by the resignation of the only Home Economics Supervisor by reason of marriage.

The basic training of extension team members is designed on as broad a basis as possible and it is only to be expected that their depth of knowledge on any particular subject is limited. To meet this deficiency it is policy to station a "Subject Matter Specialist"—an officer who has received detailed in-service training in one particular crop or subject, whose services can be called upon by extension teams when problems beyond their own arise—in such Administrative Division of the territory. By the year's end such officers specially trained in rubber, freshwater fish culture, wet paddy cultivation and veterinary work had covered duty in Divisions where extension teams are working.

From the beginning it has been clear that extension work would progress more rapidly if accepted by some form of organization amongst rural people. In 1961, therefore, with financial aid from the Asia Foundation, a National Organisation for Women's Institutes was appointed in the Department. It is appreciated that in other countries the movement is organized as an autonomous self-governing body. Such, however, is considered impracticable in Sarawak at the present time and it is deemed essential that, in its formative years, the movement be directly associated with Government through the Department of Agriculture. By the end of the year the first Institute had been formed in First and Third Divisions; their value as a focus for extension work in the future cannot be over emphasised.

Concurrently, twelve members of the United States Peace Corps assumed duty in September with the object of developing, in association with the Department, an organization amongst rural youth along the lines of the 4-H Movement. It is too soon to assess the success of their efforts. Should they achieve their objective, however, another very useful avenue for the furtherance of extension work will have been opened.

The development of the Branch as a whole has been such as to warrant long-term planning for the future and in July the Department was fortunate in obtaining the services of Miss Ingrid Janselid, an Extension Specialist from the Food and Agriculture Organization. Miss Janselid remained in Sarawak until December and made a detailed review of progress and it is considered that her report and specific recommendations will be of the utmost value in the future. While in Sarawak, Miss Janselid gave valuable assistance in the formulation of a Development Plan for the Extension Branch for the period 1964-1968.

#### *Agricultural Education*

It is appreciated that the problem of agricultural education in Sarawak is rapidly assuming such proportions as to warrant the establishment of a separate Branch of the Department to deal with all its aspects. During 1962, however, it remained an activity of the Extension Branch and as such included both staff training and rural education, i.e. the training of farmers and their wives. The inclusion of staff training in an extension undertaking may seem at first sight illogical. The main emphasis in the programme, however, has involved the training of field extension workers and so date it has been necessary for the Branch head to be concerned in this.

Facilities for staff training include the School of Agriculture at Batu Lintang, Kuching, the Extension Training Centre at Taram, and Rubber Training Schools at Serempong in First Division and Tampung Takap in Fourth Division. The School of Agriculture and Extension Training Centre are concerned primarily with

the training of Extension personnel. The Rubber Training Schools provide courses of short duration for Departmental staff and farmers on practical aspects of rubber production. During the year plans were in hand for the transfer of the School of Agriculture from Batu Lintang to a more rural and generally more suitable site at Serempong. The new school will cater for day trainees as compared to thirty at the present school. The construction of a third Rubber Training School at Sanga in Fourth Division was well advanced and the school scheduled to open early in 1963.

Rural education is informal and is centred on the one hand, on Divisional Agricultural Stations which are being increasingly devoted to this purpose, and is taken to the villages through the Department's Extension Teams on the other. Plans for a more formal approach through the medium of "Farm Institutes" have been formulated and have been accepted under the Freedom from Hunger Campaign. It is planned that the first Institute will commence early in 1964.

#### *Staff Training*

Although the position is improving slowly the low standards of education prevailing in Sarawak in the past have precluded the despatch of any but the selected few for training overseas. The highest priority has therefore been given to staff training within the territory. During 1962 the main stress continued to be placed on the special co-educational course of training in Basic Agriculture and Extension Methods and Practice designed to meet the needs of extension workers both male and female and described in detail in the Annual Reports of 1959 and 1960.

Part I—Basic Agriculture—of the fourth of these courses which commenced in September 1961 was concluded in August 1962. The increase in the duration of this part of the course from nine to twelve months proved well worthwhile and permitted a significant broadening of trainees' activities. In addition to formal agricultural and home economics instruction both theoretical and practical, trainees undertook a specific project in the form of the agricultural development of an acre of land around the home for the Agri started some 12 miles from Kuching. The thirty trainees on the course, ten Home Demonstrators and nine Junior Agricultural Assistants, one male and one female Junior Community Development Assistant and five farmers' sons on Government Scholarship, all from Sarawak, and four Junior Agricultural Assistants from North Borneo, were divided into four groups. A fish pond measuring 60 feet x 40 feet x 3 feet was constructed and stocked; a large piggy was built and four crossbred piglets introduced and a proper system of feeding and management initiated; a modern semi-free range poultry run together with poultry house was erected and ten white leghorn chicks and a cockerel provided; a 72-bed vegetable garden occupying one-eighth of an acre was established and bounded with citrus and papaya trees; and the driveway to the home was lined with a total of eighty-two coconut palms. On completion, the project as a whole was handed over to inmates of the home who will run the various units under guidance from extension personnel.

The lengthening of the course also permitted the posting of trainees at the School (with the exception of farmers' sons holding scholarships) for attachment to extension teams working in the field for a period of one month. This attachment allows the trainees to "savour the life he (or she) is being trained to lead, provides experience during which deficiencies in training, in so far as the individual is concerned, are shown up, and gives opportunity for the trainee to assess his suitability for extension work in the future. This innovation was an unqualified success. Of the twenty-five trainees who participated only one expressed a desire not to proceed to extension training and was returned to normal field duty at the conclusion of his training in Basic Agriculture.

Of the twenty-five Government officers completing Part I of the course, twenty-four proceeded to Part II Extension Theory Methods and Practice at the Extension Training Centre, at Tasek, 34 miles from Kuching, which commenced in September. These comprised ten Home Demonstrators, eight Junior Agricultural Assistants and two Junior Community Development Assistants from Sarawak and four Junior Agricultural Assistants from North Borneo. All trainees settled quickly to this new aspect of their work and by the year's end had completed six weeks theoretical instruction, undertaken a two weeks' community survey in selected villages, analysed the results and drawn up extension programmes for the villages concerned. Part II of the course is scheduled to end in mid-March 1965, and subject to the acceptance by the people of the programmes drawn up, their execution will be a practical exercise on the part of the trainees from January 1965 onwards.

Due to staffing difficulties, in that no suitable officer of the Department was available for duty as principal of the School of Agriculture after August 1962, it was not possible to commence the fifth of three courses in September 1962 as planned. By the year's end, however, the position had been rectified and the fifth course was scheduled to commence early in 1965.

The drive to provide training in agricultural extension at the higher supervisory level continued and a six weeks' course in extension methods and practice was held at the Extension Training Centre, and attended by an Assistant Agricultural Officer and eleven Agricultural Assistants in April and May. The need for trained extension team members already on duty in the field to keep up to date was also recognised and a three weeks' refresher course held in March and April, also at the Extension Training Centre, was attended by ten Junior Agricultural Assistants and twelve Home Demonstrators.

A further six Agricultural Assistants proceed to North Borneo in March to attend a one-year course at the newly opened Agricultural School at Tuaran near Jesselton. The attendance of Sarawak trainees at this course is in accordance with an arrangement whereby Sarawak offers facilities for training Junior Agricultural Assistants and Home Demonstrators for North Borneo while the latter offers reciprocal facilities for Agricultural Assistants from Sarawak.

In the wider field, a total of seventy-nine Junior Officers attended a series of two weeks' courses on all aspects of rubber planting, processing, and disease control at the Department's Rubber Training Schools; a further twenty-one attended a one month's course in freshwater fish culture and another eight underwent refresher courses in general agriculture lasting up to four months. In addition four Junior Agricultural Assistants and four Home Demonstrators received instruction in the principles of adult education at a special one-week course.

#### (ii) Rural Education

Five farmers' sons who were awarded Government Scholarships to undertake the Department's one-year course in basic agriculture at the School of Agriculture in 1961 completed their studies in August 1962. This scheme which provides free tuition, board, lodging, transport and "coffee money" at a rate of one dollar per day, has been in operation since 1959. Due to the low standards of education prevailing amongst scholarship candidates results have been no more than fair and in 1962 it was decided that the award of scholarships should be discontinued, pending the establishment of Farm Institutes.

Courses of two weeks' duration, in general agriculture continued to be conducted on Agricultural Stations in First, Fourth and Fifth Divisions and were attended by a total of 166 farmers; a further 112 farmers attended courses in the management, handling and working of buffalo, run in conjunction with the Buffalo Training

and Distribution Scheme, and eight farmers were trained in freshwater fish culture. Efforts to train farmers in the latest techniques in the planting, tapping and processing of rubber continued and a series of two weeks' courses were attended by 188 farmers; in addition a special course was run for thirty-three school boys and a total of 100 farmers were trained specifically as rubber builders. Farmers attending many of the courses described above were accompanied by their wives whom, it is considered, benefit to an equal degree.

In First and Third Divisions, and arising primarily from the activities of extension teams, expanded visits by parties of selected farmers and their wives to Agricultural Stations and Development Schemes in areas other than their own, proved highly successful. In a country lacking communications, these visits can do much to break down the parochial barriers which impede progress. Plans are in hand, through the Freedom from Hunger Campaign, to extend such visits to the Federation of Malaya in future.

In Third Division, the work of extension teams has brought to light a demand for Adult Education. It is not intended that this should become an extension activity. Funds, however, have shown a willingness to help and some progress has been made.

Throughout the year officers of the Department, both senior and junior, devoted considerable time to giving lectures and talks to groups of farmers either in the field in conjunction with practical demonstrations or in the longhouses illustrated wherever possible by colour slides, and in either case backed by the Department's simple technical literature.

#### Services to Farmers

##### (i) Pest Control

The main element in this service, which is entirely free, is directed towards the control of pests in the paddy crop. It provides spraying teams equipped with spraying machines and Dieldrin, or knapsack sprayers using Agreicide dispersible powder, which may be called upon to deal with serious outbreaks of paddy pests. In addition, supplies of single hand-sprayers and hand-chusters are held in District Agricultural Offices for issue on loan to farmers, together with the necessary insecticide, to contain minor outbreaks. As a precautionary measure in instances when a spraying team is unable to reach a major outbreak in time, supplies of insecticides, principally Agreicide 1-Dose, Zinc phosphide and Senexa are placed at strategic points in all Divisions for issue to farmers on request. Having regard to the safety factor, a sustained effort has been made to replace zinc phosphide with Senexa for rat control. To date, however, in the view of the former, Senexa has proved ineffective under field conditions. The demand for zinc phosphide, therefore, persists and must be met.

As regards crops other than paddy, the Department endeavours to assist farmers wherever pest damage is reported and small quantities of Furadan, Malathion, Chlormethoxy and Aboloxuron were issued during the year principally to commercial village vegetable gardens and fruit nurseries. Where commercial crops are concerned, however, the Department normally contributes advice and demonstration while the purchase of insecticides and spraying equipment is the responsibility of the farmer.

##### (ii) Irrigation and Milling Facilities

The Department provides pump irrigation facilities in association with three small wet paddy areas at Paya Pehat, Paya Estrogen, and Sungai Banya in the Maidey Yang District of First Division. Interest in the use of these facilities has never run high: during 1962, however, rainfall proved adequate and pump irrigation was not required.

In accordance with Departmental policy, which is to avoid conflict with commercial interests, there was a further decline in the use made of Departmental paddy mills situated in remote areas as a milling service to

farmers. Comparative figures for quantities of padi milled over the last five years are given below:—

|                                   | 1959 | 1958  | 1957  | 1956 | 1955 |
|-----------------------------------|------|-------|-------|------|------|
| Quantity of padi milled (in tons) | 243  | 162.7 | 135.5 | 188  | 81   |

Every effort is made to encourage the people in the areas in which these mills are situated to make them over as commercial concerns. Lack of ready cash, however, presents a problem and little serious advance can be expected in this direction until the people concerned become more co-operatively minded.

#### (iii) Tractor Service

Little use was made of this small service which makes limited numbers of Ferguson tractors and Howard rotary hoes available to the public on hire at rates of \$5.50 per hour for tractors and \$3.00 per hour for rotary hoes. Activities were concerned exclusively with the First Division where tractors worked on hire for a total of 312 hours, principally in connection with the establishment of new pepper gardens.

While it must be conceded that there is little scope for mechanical cultivation in the context of the individual smallholder in Sarawak at present and that any significant advance must come from large scale co-ordinated undertakings, nevertheless the continuation of this service is considered worthwhile for the few farmers who are in a position to make use of it. When not on hire, the machines involved are in use on Agricultural Stations.

#### Community Development Schemes

The Department continued to liaise with Community Development Schemes and assisted with advice, the supply of planting materials, herbicides, veterinary treatment of animals, and technical literature, as well as providing training facilities for Community Development Staff.

At Padawan in the First Division an Agricultural Assistant continued on secondment as officer-in-charge.

A Home Demonstrator was posted for temporary duty at the Lomauk Scheme in Second Division pending the completion of the making of the Scheme's own assistant at the School of Agriculture and Extension Training Centre.

At the Sungai Masing, Uluath and Bessah Schemes in Third Division very considerable progress was made under the Assisted Rubber Planting Scheme: a Home Demonstrator assisted with Adult Education classes; and following a visit to Sungai Masing by the National Organizer, the first Women's Institute in Third Division was formed in association with the Scheme.

A very satisfactory crop was obtained from the pump irrigated wet padi area opened, at Long Lian, in 1961 under the Assistance to Padi Farmers Scheme and a Departmental buffalo trainer conducted a one-month course in the management and handling of buffaloes.

#### Rubber Planting Scheme

The Rubber Planting Scheme was launched in 1956 to assist rubber farmers in replacing their old, low-yielding and uneconomical seedling rubber with high-yielding material and to encourage them to open new land for the planting pedigree rubber. The need for a sound cash crop was most evident as the traditional bush-fallow system of cultivation was making it increasingly difficult for the indigenous people of the country to produce sufficient rice to support themselves. The Scheme subsidizes farmers to the extent of \$450 per acre for replanting and \$150 per acre in the case of areplanting, the subsidy being partly in planting material, fertilizer, weedicides, pesticides, etc., and partly in cash payments.

#### Planting Programme

The planting programme for 1962 approved by the Board of Administration was 16,881 acres made up

as Newplanting 16,081.25 acres and Replanting 809.55 acres including 400 acres on estates. Of this total, the planting of 16,788 acres was completed. The shortfall was due to one or a combination of such reasons as a change of mind on the part of farmers, the decision to plant other crops, the fear that the standard of upkeep demanded by the Scheme would be too onerous to maintain, and loss of interest. In Fourth and Fifth Divisions, the Borneo revolt seriously affected the work of those farmers planning to plant their approved acreage in the latter half of December, whilst in the country as a whole this emergency was followed closely by torrential rains and some of the worst floods in the history of Sarawak. In view of this rate 128, which makes it mandatory for all approved but un-planting areas to be cancelled from the Scheme at the end of each year, was recorded for the time being to enable affected farmers to complete their planting.

During the year 1,426.25 acres were cancelled due to poor maintenance whilst 22.25 acres were deducted following survey of land. Voluntary withdrawals accounted for 418.50 acres. The total acreage remaining in the Scheme at the end of 1962 was:—

|                  |             |                 |
|------------------|-------------|-----------------|
| First Divisions: | Newplanting | 57,185.50 acres |
|                  | Replanting  | 1,603.35 "      |
| Estates:         | Newplanting | 102.00 "        |
|                  | Replanting  | 1,062.00 "      |
| Total:           |             | 61,952.85 acres |

The total acreage planted but subsequently cancelled because of poor maintenance amount to 4,790 acres; thus since its inception, the Scheme has been responsible for planting 66,519.25 acres.

In 1962, requests to plant 21,316 acres during 1963 were received and of these 17,150 acres were approved by the Board. In this category is comprised, the Scheme will have planted 31,305 acres of its target figure of 90,000 acres by the end of 1963.

Of the acres planted in 1956 and 1957, 240 acres are in bearing. From reports received, yields are up to expectations and should increase over the next two or three years until the trees reach their optimum.

#### Rubber Cuts

Revenue derived from a cut of two cents a pound on all rubber exported from Sarawak is devoted exclusively to the betterment of the rubber industry. In 1962 this sum amounted to \$1,960,179.88 compared with \$2,000,520.51 in 1961.

#### Planting Material

Go Seedlings.—In 1961, 4,000,000 T11 seedlings were imported from Malaya. Of these 2,941,000 germinated and were planted at Essengul Nursery, 31st Mile, Sempang Road in First Division.

The Essengul Nursery site is an area of some 200 acres owned under Native Customary Rights by the Land Dayaks of the District which was accessible by them as they had neither the time nor the tools to clear it of the falling and other deleterious growths with which it was covered. In 1950, the Department, with the permission of the owners, took over the land and cleared and cultivated it progressively by mechanical means. As a reward for the co-operation received, the land, once nurserying is completed, will be handed back fully planted with a stand of high-yielding, budded rubber. In order that others should receive a similar advantage, another area of approximately eighty acres at Kempong Teras was taken over and used for the 1963 planting programme received there; this too will eventually be handed back fully planted. The first area at Essengul used as a nursery will be returned to the owners in 1963.

To meet the 1963 planting programme requirements, 6,000,000 T11 seedlings were imported from Malaya. The permission obtained was 76.1 per cent.

(b) *Buddled*—The main budded nursery for the Department is at Tasei Experimental Station in First Division where there are 12,000 plants divided between different clones. During the year 4,413 yards were issued to planters approved under the Rubber Planting Scheme and 1,050 yards went to private planters who are able to purchase it from the Department at \$2.50 per yard.

(c) *Future Supplies*—Over the past two years, experiments have been carried out to ascertain whether stamped seedlings produced by the green budding method would be suitable for transplanting. This method of budding was pioneered in North Borneo and has proved highly successful. It is, therefore, the intention to issue stamped seedlings to farmers in the Scheme in place of clonal seedlings. The speed with which this change-over can take place depends upon the speed with which budlers can be trained to undertake the large number of buddings required each year to fulfil the demands of the planters throughout the country. The main advantages of this system will be to make Sarawak independent of outside sources of seed supplies as seeds from ordinary non-pedigree rubber can be used for the stocks on which to bud and it will be possible to select clones most suitable for different districts and soils.

During the year under review, 71,000 seedlings were given budged and will be used as planting material in 1964. At the same time an ordinary seedling nursery was laid down for the production of a quarter of a million green stamped seedlings to be used in the 1964 planting programme.

When the budded rubber which is being planted at the Enangali and Kampong Tasei nurseries comes to maturity, the area will provide a valuable source of poly-clonal seed.

The isolated seed garden which has been established on an area planted with T11 budded trees in Sungai Mayan Estate in First Division has yet to have a satisfactory seed fall.

Whilst every effort is devoted towards keeping the cost of producing clonal seedlings to the minimum, the cost of production in 1962 was 41 cents per seedling. This cost includes the tax-cost duty imposed by the Malayan Government, the cost of freight from Malaya and the expense of planting, upkeep and fertilising. In addition, it must be appreciated that, of the seed imported, a percentage falls to germinate and, of those that do, a further percentage is lost as insects, snails, rats and inherent stunted growth take their toll.

#### Fertilizers

Fertilizers are supplied and distributed by two importing firms under contract. These companies have between them a total of fifty-seven distributing agents throughout the territory and due acknowledgement of the co-operation received is made to them. By this means of distribution, much of the administrative work necessary for issuing fertilizer is taken off the shoulders of the Department's field staff, thereby permitting them to devote more of their time to inspection and advisory duties.

#### Film

In an effort to assist and encourage farmers to better work, the Department commissioned the Cathay Film Services Ltd. to produce a colour film and three black and white instructional films. The former entitled *Sarawak Prospects with Rubber* is two reels in length and illustrates the advantages of planting high-yielding rubber and a general picture of the work which this entails. The three instructional films show in detail:—

- (a) how young rubber, when it reaches maturity, should be opened up and the correct method of tapping to be employed;
- (b) the recognition and treatment of the main pests and diseases encountered in Sarawak; and

- (c) the processing of latex into first quality ribbed, smoked sheet.

16 mm. copies of the films are available with dialogue in English, Thai, Malay and Chinese and they have been received with enthusiasm throughout the country. In order to reach the wider audiences at the bigger towns, copies of 16 mm. size of *Sarawak Prospects with Rubber* have been made available with the commentaries in English, Chinese and Malay.

#### Processing Centres

To encourage the production of first quality grade sheet which will attract a higher price and thereby increase the farmer's income, the Board of Administrators initiated a programme of erecting processing units at strategic centres throughout the country. Farmers at the selected sites are asked to co-operate in supplying sand, stone and jungle fashers whilst the Department assists them by subsidising them with other materials and equipment costing between \$300 and \$500 dependent on the size of unit to be built. These processing centres have shown that the small-holder in Sarawak can produce a first class grade of sheet rubber and it is hoped that more and more farmers will be encouraged to build similar units for themselves. During the year under review, thirty-five centres were completed whilst thirteen more in the course of construction. This brings the total number of centres built since the inception of this scheme to 191. At the outset, it was difficult to persuade farmers to make a price differential for the better quality sheet but this difficulty is slowly being overcome and more and more farmers are learning that, with a little extra effort, they can increase their income quite appreciably. The officers of the Department keep a constant watch on the centres and are ready to give advice whenever it is requested or necessary.

#### Pests and Diseases

As the number of farmers attending the Department's training courses increases, so does the recognition of the need to keep a constant watch for the outbreak of disease in order that immediate treatment can be given. Greater experience and knowledge enable the farmer to take the necessary action to cure attacks. The main diseases and pests which are encountered in Sarawak are pink disease (*Carotenia subcordata*), white root disease (*Phoma liparidis*), and, in mature rubber, mouldy rot (*Conocarpus levis*). Of the pests, by far the most prevalent is leafing grass (*Imperata cylindrica*), termites (*Coptotermes curvispinatus*) are troublesome in some districts whilst in others pig and deer cause damage.

#### Ladder tapping

The Department continues to advise farmers to adopt ladder tapping in the many thousands of acres of non-pedigree rubber which is still in bearing. The majority of the trees are old and have had their bark at normal tapping height ravaged by bad tapping and the effects of disease. By ladder tapping, the farmer can tap the virgin bark high up the trees and therefore is able to increase their yield and his income. Unfortunately, this method has not been widely practiced in Sarawak before and farmers, ever reluctant to adopt a new innovation, are slow to appreciate the advantages to be gained.

#### The Approved Rubber Planting Scheme

This scheme, designed to give some assistance to farmers living in the deep interior of the country to plant high-yielding rubber, was inaugurated by the Board of Administrators, in December 1956. These farmers cannot be accepted into the Rubber Planting Scheme proper as the distances involved in getting to their gardens for inspection are such as to make it impossible with the present available staff.

Farmers are keen to take advantage of this Scheme and during the year 427,400 seedlings were issued, sufficient for 2,136 acres which, together with the acreage planted in 1961, brings the area under the

Scheme in 1,800 acres. When the subsidised Rubber Planting Scheme is able to extend its boundaries, the fact that these farmers have already taken advantage of the Assisted Rubber Planting Scheme, will in no way prejudice their being accepted into the major scheme provided standards are normal.

#### Circular Planting Scheme

No change has been made in the details or the administrative execution of the scheme during the current year. The high degree of decentralisation with full executive responsibility vested in Divisional Committees has continued. It is to be hoped that with the formation of Divisional Development Committees, a more active role in the everyday running of schemes such as this will be assumed at the Divisional level.

The policy of rigorous nursery selection at a culling rate of 60 per cent was maintained. Seedlings were obtained from First Division nurseries for those required for planting in Fourth and Fifth Divisions which were obtained from Labuan, North Borneo. During the year a total of 877,682 seedlings were nurseries in thirty-five selected sites covering all Divisions. The cooler season (North East Monsoon) which commences from approximately December to March, makes a satisfactory annual programme of work difficult in that seedlings cannot be transported during these months. Nursery planting in April results in seedlings being ready in October/November, a period when the majority of planters are busy on their paid season and have had little opportunity to prepare their land for the planting of coconut seedlings. In Second Division nurseries were laid down at the year's end and so that land preparation can take place during the off-season and seedlings will be ready for distribution before the 1963 paid season begins. It is estimated that the total cost of producing a selected seedling including cost of seedling, transport, nurserying and delivery to a central collecting point average 20 cents.

The most damaging pest to young seedlings is wild pig. In the Kabalit area of Sibuan in Fourth Division they have been particularly prevalent and some gardens have reported almost all palms destroyed. Fencing is ineffective and the use of poisons considered to be too dangerous having regard to the number of dwelling houses and domestic animals in the vicinity. Large scale shoots would appear to be the only logical answer, but to date the planters have not managed to organise themselves to undertake this. The position was further aggravated by the outbreak in December of the Emergency and all firearms were withdrawn from this area. The *Rhinoceros Beetle*, *Oryctes rhinoceros*, has not proved to be as serious as it might in little planting has been done in the vicinity of swampholes, where the insect breeds in large numbers.

Details of subsidies paid out since the Scheme's inception are given below:—

| Division | 1959   | 1960    | 1961    | 1962    | Total    |
|----------|--------|---------|---------|---------|----------|
| First    | 1,510  | 114,296 | 115,185 | 521,491 | 8,38,382 |
| Second   | 18,754 | 17,717  | 41,312  | 41,340  | 122,111  |
| Third    | 33     | 2,175   | 5,688   | 9,777   | 18,113   |
| Fourth   | 6,568  | 7,296   | 10,273  | 11,440  | 35,477   |
| Fifth    | —      | 4,886   | 5,028   | 2,151   | 12,065   |
| Total    | 26,865 | 154,270 | 174,478 | 581,195 | 9,18,825 |

The continued interest that has been shown by planters is very encouraging. During 1962 a total of 5,157 acres was planted bringing the total since the Scheme began in 1959 to 14,813 acres. It is hoped that as trained staff become more numerous, the value of this Scheme to those who lack a permanent cash crop and are unable to plant rubber but have land suitable for coconuts can be more widely impressed upon the public. This applies particularly to the Fourth and Fifth Divisions where progress has been slow compared with elsewhere in the country.

As the majority of planting has taken place on the coastal track only, the need for adequate drainage has been particularly stressed. Co-operation between neighbouring planters in the construction of main drains has been good, but a great deal of time and work is required, particularly in areas which have previously been under primary forest where large root systems have to be cut through. Assistance towards hiring labour for this work has been granted by some Executive Committees by allowing planters to receive their planting and first year subsidy prior to planting. No cases of abuse of this privilege were recorded. In general, planters have co-operated exceedingly well and there have been few cancellations due to poor upturn. The value of intercropping with short term crops such as maize and vegetable is becoming more widely appreciated, and some excellent examples of well tended gardens, many of the earliest of which are already coming into bearing, can now be seen.

The acreage target for 1962 was set at 5,000 acres. That this figure was comfortably exceeded is largely due to the Malays in Second Division who alone planted nearly 2,500 acres under subsidy. While the efforts of the staff in these areas have been most praiseworthy, mention must also be made of the strong local leadership which has been a prime factor in sustaining the continued interest in the planting of this crop. All Divisions, apart from Fourth Division, increased their individual planted acreage over previous years. The Fourth Division has, however, been particularly unfortunate in that extensive loss by floods was experienced and interest in the scheme has suffered in consequence.

If the present rate of planting is to be maintained or, as it is hoped, increased, then large scale bunding, together with the provision of water gates will be essential. In the majority of the coastal areas, the low-lying nature of the land together with the high tidal range makes internal drainage difficult and salt water intrusion is an all too prevalent danger.

#### Freshwater Fisheries

1962 may be reported on as another most successful year in the development of this Scheme. Throughout the country farmers of all races have participated and land which would otherwise be unproductive, is now utilised for freshwater fish culture to provide a source of cash and much needed protein.

Broadly, the work being undertaken can be divided into:—

- Extension work in the field.
- The production of fry for distribution.
- Investigation of new species under Sarawak conditions.
- The training of staff and farmers.

As regards extension work, the nationwide interest in pond construction and fish culture has reached such proportions as to make the task of field staff, in keeping abreast of developments, difficult. Since 1957 more than 5,000 ponds have been constructed, details of which are shown in the following table:—

| Division | 1957 | 1958 | 1959 | 1960 | 1961  | 1962  | Total |
|----------|------|------|------|------|-------|-------|-------|
| First    | 99   | 107  | 343  | 562  | 690   | 844   | 2,745 |
| Second   | —    | 43   | 145  | 211  | 58    | 115   | 1,232 |
| Third    | —    | 35   | 47   | 36   | 158   | 145   | 421   |
| Fourth   | —    | 21   | 26   | 11   | 295   | 115   | 378   |
| Fifth    | —    | 16   | 16   | 4    | 8     | 119   | 263   |
| Total    | 99   | 283  | 529  | 866  | 1,097 | 1,295 | 3,679 |

Hand in hand with the unusual increase in the number of ponds made, the tendency towards the construction of larger ponds suitable for mixed stocking continues to grow and some excellent examples of ponds in areas of one acre in area, built by communal effort, are to be found in First Division.

As in 1961, the demand for fish fry from Departmental sources increased almost twofold. However, as many farmers have now gained sufficient experience to engage in commercial fry production, departmental distribution is no longer a true reflection of demand.

The following breakdown of applications for fish fry indicates the interest shown by the various races over the last five years:—

| Race                     | 1959 | 1960 | 1961  | 1962  | 1963  | Total |
|--------------------------|------|------|-------|-------|-------|-------|
| Chinese                  | 55   | 100  | 143   | 165   | 420   | 1,083 |
| San Dayak (Bunt)         | 31   | 41   | 196   | 879   | 1,482 | 2,629 |
| Land Dayak               | 103  | 308  | 451   | 432   | 476   | 1,770 |
| Malay                    | 26   | 47   | 40    | 221   | 218   | 552   |
| Iban                     | 9    | 2    | 23    | 29    | 35    | 98    |
| Others                   |      |      |       |       |       |       |
| (excluding institutions) | 28   | 31   | 131   | 185   | 110   | 1,285 |
| Total                    | 302  | 529  | 1,060 | 1,997 | 2,336 | 7,224 |

Other items issued free to fish farmers included 92 ewt. quicklime to counter pond acidity, 160 six-inch pipes for water control in the larger community built ponds, approximately one ton of water pumpkins (*Cucurbit* spp.) and quantities of pesticides for the destruction of natural predators.

While data on pond construction and the issue of fry and miscellaneous materials can be compiled with comparative ease, the same cannot be said for those concerned with pond yield. The piece-meal system of harvesting practiced in all but the larger ponds makes the recording of accurate yield data difficult and there is a definite reluctance on the part of the farmer to provide information which, in his unexamined view, may lead to taxation. Observations to date, however, indicate great variation in yield as between one pond and another and that yields are directly related to experience and management. Thus while the urban Chinese fish farmer of long experience can obtain yields of the order of 1½ tons and the more skilled native produces three-quarters of a ton, the average yield is estimated to be in the region of a quarter ton per acre per year.

An indication of an increase in the availability of freshwater fish is apparent in the localisation of two large markets in Kuching market for the storage of live fish for sale to the public.

The rough release of the six species available from the Department, in lakes, ponds, mining pools and peat fields continued. A further 44,322 fry were released during the year and reports indicate successful harvests particularly from peat fields in First and Second Divisions.

Investigation is undertaken mainly at the principal fry breeding station at Batu Lintang, Kuching. During the year the technique for controlled-hatching of eggs of both *Ophichthys* *gambusi* and *Hypselecara* *gambusi* was improved. It was found that the former species is particularly sensitive to any form of disturbance. Breeding ponds were fenced and in consequence, the number of brood fish abandoning their nests was considerably reduced. Promising results have also been obtained from the feeding of newly-hatched brine shrimps, *Artemia* *salina*, as the first food for *Ophichthys* fry for a period of three to four days, followed by feeding of strained, cultured, *Daphnia* *pulex* for a further five to six days.

Work with hybrid *Tilapia* using the first generation cross of the African male on the Malaysian female has met with only moderate success. The very few females which occur in any batch of hybrids show a tendency to breed first upsetting the fixed stocking rate procedure. The matter, however, continues under investigation.

Further *Iwanodon* imported from Malaya in 1963 reached maturity and spawning took place on three occasions. The numbers of fry produced have, however, been small and further work is required before

fry production can be regarded as a practical proposition. The Indian major carp, *Catla* *catla* introduced from West Bengal in the latter part of 1961 has proved comparable in both growth rate and flavour to imported Chinese carp. To date, however, the species has shown no indication that it will breed under Sarawak conditions. The indigenous species "Tan Semah" (*Labeo* *channah* sp.) has been disappointing under pond conditions and appears to require clear, running water, which characterises its natural habitat, for adequate growth.

Reports that fry of the milk fish, *Chanos* *chanos* have been found off the North Borneo coast has given rise to hopes that they may also occur in Sarawak waters; investigation as to this possibility has commenced but to date no fry have been found.

#### Assistance to Wet Padi Farmers

This scheme which was launched in mid 1958, continued to make steady progress during the year. The scheme's aim is to encourage the opening of new land for wet padi production and to increase the productivity of land already farmed. There is no compulsion to join the scheme or to carry out the advice given. Influences in the form of materials for water gates, spades and in some cases small cash grants for work done have been given but the real burden falls on the farmers themselves. Without their co-operation and enthusiasm, no progress can be made, however valuing the efforts of the staff may be.

Areas which come under the scheme are for practical purposes limited to 300 acres ( farms in excess of this average require major drainage or irrigation works and are referred to a Central Advisory Committee, of which the Director of Agriculture is Chairman, for subsequent joint action by the Agricultural, Lands and Surveys and Public Works Departments). Level surveys are carried out by Departmental staff so that the accurate siting of bunds, drains and water gates can be determined. The problem of training newspapers has proved difficult, and whilst the position has improved, there is still a shortage of men experienced in this type of work.

That planters have been so ready to accept advice on the need for water-control and drainage and have been prepared to put in so much work to achieve these, demonstrates how anxious many of the more backward races are to improve their farming techniques and their standard of living.

All Divisions have participated but the most noteworthy progress has been made in the Fifth Division, where over thirty schemes are in operation among the Malay and Nias communities. These vary in size from comparatively large areas of over 200 acres as at Mirapal in Lawas District to numerous smaller schemes in the region of twenty acres. An Agricultural Assistant who has received specialist training in padi work in Malaya, has, by gaining the confidence of the local planters, achieved results which many would have described a few years ago as impossible. Land Dayaks in the First Division and San Dayaks in the Second and Third Divisions are also making good progress. The recent posting of an Agricultural Assistant (Kias) to the Fourth Division has already proved the value of having "Subject Matter Specialists" on the ground. Not only do they encourage and advise planters direct, but they also act as guide and mentor to less experienced members of the staff.

During the year an additional three-four schemes involving 1,580 acres were initiated, bringing the total since the Scheme's inception in 1958 to ninety schemes covering approximately 5,150 acres.

#### English Purchase and Training

It has been clearly shown that cultivation using bulldozer drawn implements increases yield and one of the main drawbacks in connection with the cultivation of wet padi in Sarawak has been the almost complete disinterest on the part of the farmer in the use of draught



animals to assist in land preparation. In consequence such buffaloes as are kept are untrained and are permitted to run wild. They are thus of little economic value; veterinary treatment is almost impossible, and the numerical growth of herds slow.

Inadequate cultivation with hand tools results in poor yields and limits the area cultivated per individual; paddy fields are not grazed down in the off-season thereby inhibiting "drying out", and benefits of natural mowing are lost.

The object of the scheme is to train farmers in the handling, management and working of buffaloes for the cultivation of wet paddy and to provide them with trained working animals at a highly subsidised price. Training courses for both farmers and Departmental staff are run on Agricultural Stations and Padi Test Stations throughout the country. Details of training are given under Agricultural Education. As Departmental herds are at present inadequate to provide animals in the numbers required, the Scheme allows for the purchase and importation of animals.

During the year a total of fifty animals were brought in from North Borneo, in two batches of thirty and twenty. The first batch were distributed to farmers in the First Division, the majority to Lund Dryaks who have shown a surprising aptitude for handling these animals, and at the year's end the second batch were awaiting transportation to Seremagang in the Second Division.

#### Supplying of Planting Material

A wide variety of planting materials was available for distribution on Agricultural Stations throughout the year. Although pest-infest which caused much frustration in localised and seedling nurseries at the main centre of supply on Tasek Experiment Station was brought under control by routine spraying and there were marked increases in the numbers of budded rubber and durian plants distributed, demand for these still far exceeds supply. It is essential, therefore, that production on Divisional Agricultural Stations be substantially stepped up if the demand is to be met and Tasek Experiment Station relieved of this inappropriate routine work.

The range of planting materials and quantities supplied from Agricultural Stations over the last five years is shown below:—

|                               | 1958   | 1959   | 1960   | 1961   | 1962   | Total  |
|-------------------------------|--------|--------|--------|--------|--------|--------|
| Gum (Metric)                  | 1,084  | 1,200  | 97     | 1,408  | 1,478  | 5,267  |
| Bananas (budded)              | 1,175  | 1,750  | 1,063  | 4,738  | 4,723  | 23,459 |
| Orchids (budded)              | —      | 404    | 144    | 540    | 1,000  | 2,088  |
| Mangoes                       | —      | 1,464  | 1,000  | 1,000  | 500    | 5,000  |
| Shamasham Fruit               | 1,400  | 400    | 400    | 475    | 400    | 3,075  |
| Coffee Seedlings              | 10,100 | 20,000 | 10,100 | 10,400 | 10,400 | 61,000 |
| Coffee Seed (in S.S.)         | —      | 120    | 45     | 40     | 40     | 245    |
| Shamasham Seedlings           | 400    | 50     | 400    | 5,700  | 1,000  | 8,150  |
| Banana Seedlings              | 50     | 1,120  | 1,000  | 1,700  | 1,700  | 5,020  |
| Papaya Seed (in S.S.)         | 20     | 100    | 100    | 100    | 100    | 520    |
| Mango Seed (in S.S.)          | —      | 20     | —      | —      | —      | 20     |
| Pineapple Seed (in S.S.)      | —      | 5      | 10     | 20     | —      | 35     |
| Guava Seedlings (grafted)     | —      | 1,000  | 1,000  | 1,000  | 1,000  | 4,000  |
| Guava Seedlings (non-grafted) | —      | —      | 1,000  | 4,750  | 500    | 6,250  |

During the year 11,000 *Shamasham* seedlings were, for the first time, nurtured on Departmental Stations and a total of 3,600 seedlings distributed. Due to the wide area over which subsequent planting took place a detailed follow-up is difficult, but early observations show that between 60-70 per cent of seedlings have survived. Although training is irregular, in good seasons the crop and crop provides a valuable source of income. As they occur naturally, however, trees are scattered and the collection of nuts time consuming. Should the establishment of concentrated stands in areas accessible in the village prove successful the advantages to the farmer are obvious.

#### Supply of Improved Livestock

The object of the Scheme is to increase the numbers and quality of commercial livestock in the country with particular reference to pigs, cattle and poultry, by the

issue of quality stock to those farmers who have proved themselves capable in livestock husbandry. Buffaloes are considered in the context of working animals and as such are dealt with separately.

#### (a) Pigs

With assistance from the Australian Government under the Colombo Plan, fourteen pure bred gilts and four boars of the Berkshire breed were received during the year, thus permitting a start in the implementation of the Department's revised pig policy and providing for a significant increase in the issue of breeding stock as shown in the following figures for the distribution of breeding pigs over the last five years:—

|                | 1958 | 1959 | 1960 | 1961 | 1962 | Total |
|----------------|------|------|------|------|------|-------|
| Boars          | 150  | 150  | 101  | 194  | 268  | 863   |
| Gilts and Sows | 188  | 150  | 250  | 187  | 117  | 992   |
| Total          | 338  | 300  | 351  | 381  | 385  | 1,655 |

Issues included both pure bred Berkshires and Chinese type pigs as well as cross-bred Tamworth and Middle Whites. The bulk of these latter two were issued to operators of "Subsidised Commercial Piggeries"—selected farmers who are supplied with breeding stock for the production of weaners for sale to the public at a controlled price. A total of seven subsidised commercial piggeries were in operation at the year's end. It is intended that in the future these selected farmers will be issued with pure bred Tamworth and Middle White breeding stock for sale to farmers who prefer these breeds to the Berkshires.

#### (b) Cattle

The building-up of the Departmental herd continued to have top priority and only bulls surplus to requirements for this purpose were available for sale. A total of eighteen bulls was issued to farmers who had herds of sufficient size to justify replacement of the breeding sire.

The two small herds of Bali cattle issued to farmers in Third Division in 1960 have continued to thrive and arrangements for the introduction of new blood are in hand.

#### (c) Poultry

As the poultry industry in Sarawak is a comparatively highly-organised commercial undertaking, Departmental activity is largely confined to the demonstration of systems of feeding, housing and management on Agricultural Stations. The issue of quality stock in the more remote areas invariably proves successful. However, requests from farmers in such areas are met wherever there appears to be a reasonable chance of survival and a total of 4,057 hatching eggs and 265 pure-bred Rhode Island cockerels were distributed during the year, the majority of the latter to Third Division in exchange for native birds.

#### Veterinary Extension Service

The Veterinary Branch, which is responsible for the Veterinary extension service throughout the country, is providing an increased coverage, due mainly to increasing numbers of trained junior staff becoming available but also in the fact that when a new area becomes accessible by virtue of new postings, the local demand for services rapidly increases. Assistant Veterinary Officers are now serving in Third and Fourth Divisions and junior officers who have had short in-service training at home and overseas are returning to augment the Branch activities. In addition to daily demands for advice and treatment, the Branch is responsible for such prophylactic vaccinations as *Ranunculus Septicemia* in cattle and buffaloes, *Pasteurella* in pigs, *Avian* and *Poult* in poultry.

In addition, with more experienced junior officers now serving in outstations, the Branch is assuming a more active part in animal husbandry problems which, coupled with animal health and disease control, constitutes a concentrated effort to improve the livestock industry in all Divisions. With efforts overseas undergoing the necessary training, this position will be further improved in the near future.

## Excerpts from Annual Reports of Administrative Officers for the year 1963

Lower Sanyat District  
District Officer—Michael Toyad

### Court

A total of 62 Criminal and 14 Civil cases were heard during 1963.

Four accidental deaths, one by drowning, one committing suicide by hanging, one hit by a falling tree branch, and one woman dragged away by a crocodile, were recorded under section 7(1) of the Inquest Ordinance, without holding inquests in all the cases.

Sometimes in June, a Malay woman of Kampong Lubok Panggor, Simunjan, was dragged away by a crocodile while she was fishing in the Sanyat River. The dead body was recovered two days later.

### Crime

A boy of sixteen years old of Gunung Nipit, Simunjan, was convicted before the High Court at Kuching for theft, and committed to Sarawak Boys Home for a period of two years.

Six natives were convicted before the District Court for failure to surrender their daggers and ammunition under Regulation 19 of Preservation of Public Security Regulations, 1962, and each was fined \$50.00.

Eight Indonesian Sea Dayaks who had been removed from Sarawak under the Immigration Ordinance, and re-entered without written authority, were all prosecuted and each was sentenced to one month imprisonment.

### Medical and Health

During the second half of the year the cholera outbreak was brought completely under control, and the district was free of the disease. A quick supply of vaccine was rushed to the areas affected and the local population was inoculated. A total of about 15,000 persons in this district were vaccinated.

12,403 outpatients were treated at Simunjan Dispensary throughout the year as compared with 11,020 in 1962.

14,021 outpatients were also treated by three Ulu Darters, who were stationed at Kampong Gading, Kampong Monggo Ai and Kampong Iremban. They are now employed by the State Government.

The supply of drugs to the Dispensary and the Ulu Darters was adequate, and there was no complaint by the public.

Military work in the district was in progress. They were fairly busy with their work.

### Native Affairs

A discussion was held with Tusi-Tusi Rawa to transfer certain villages, i.e. Kampong Sengul Pimang, Kampong Sengulok, Kampong Tulaga, Kampong Nyetlat, Kampong Jurek and Kampong Bahat Katin to the Serian District, where they would be easily served by the new Serian-Simanggang Road. The proposed transfer was rejected by a majority. As a result, a new Pongpoh was re-elected to replace the late Pongpoh Jawa.

Four Malay crocodile-catchers in this district caught a total of 48 big and small crocodiles during the year. Sometimes in November, 1963, the biggest one was caught measuring twelve feet long and five feet wide. A sum of \$132.42 was paid out by Administration vote from the Crocodile Reward Funds.

The Kampong Sengra Assistance to Padi Planting Scheme is encouraging. These people are obviously keen farmers, and deserve full Agricultural Department support. The scheme is still in the early stage, and to make it complete, much more work will be neces-

sary after the next harvest. Assistance has already been supplied under the scheme, such as tools, three tidal chains to prevent ingress of salt water, and 400 pounds of padi seeds variety Achek.

There was a lot of talk among the Malays in coastal areas about land to plant padi.

### Citizen Affairs

The Chinese in the district were generous in giving donations towards the Ragatta Funds and the Flood Relief Fund.

Simunjan Bazaar was fixed with electricity during the second half of the year. The lights start from sunset to sunrise. The electricity is produced by a private firm of the Simunjan Electricity Supply Company. But though the rates are fairly high, the consumers are happy to have it.

### Posts and Telegraphs

The V.H.F. set was functioning satisfactorily during the year. The station is manned by a single V.H.F. Operator (Mechanic) assisted by Police Officers at intervals.

### Local Government

The Council this year improved and extended street lighting facilities in town area; it purchased fire-fighting equipment and constructed a slaughter house.

### Lower Sanyat District Council Election

The polling of the twelve wards took place from 1st to 13th June, 1963, with three travelling polling stations. The polling was completed smoothly as arranged. The counting of votes of the twelve wards took place on 21st June, 1963 from 9 a.m., and the results were announced by Radio Sarawak by about 1.15 p.m. Among the twenty-five candidates standing for election in the twelve wards, nine serving Councilors were returned, including the Chairman, who was re-elected. The distribution of seats at the conclusion of the election were thus PANAS 3, SUPP 2, and Alliance 2.

One candidate lost the deposit as he only scored twenty-five votes out of the total of 615 votes cast. :

### Agriculture

The Coconut Planting Scheme among the Malays, and Bungs, is also in progress. Up to date a total of 341 acres were planted under subsidy. Cash subsidy paid out during the year amounted to a total of \$8,621.50.

The coastal areas including Sengra, Jemman, Eel, Pongtan and Senguan are the centres of producing of coconuts. Copra was being sun-dried on large wooden platforms, with sliding aluminium roof. The price for copra was at \$27.00 for first quality and \$19.00 for second quality per picul.

Water-melon (Simangka), maize and pumpkins were grown as an off-season crop on padi land by Malays and Bungs. About 300 water-melon fruits are obtained per acre, and sold at prices ranging from 30 cents to 80 cents each.

The grand total of rubber planted up under the Rubber Planting Scheme in the district is 2,348 acres. The Agricultural Assistant, Simunjan, reports that on the whole the maintenance of Rubber Planting Scheme work was satisfactory.

### Land and Surveys

Applications for land received for the year 1963 covered an area of fifty-seven acres approximately, and compared with 1962, which covered an area of 1,310 acres. This was a decrease this year in comparison with the previous year. The decrease was due to no new land application being received as from second quarter of the year, on the Divisional Superintendent of Lands and Surveys instructions.

### Labour

One case of accident in the course of employment was reported in this office. \$123.32 was awarded in compensation. There was no major labour dispute reported during the year.

### Co-operative Developments

There were fourteen registered Co-operative Societies in this district at the end of the year, consisting five Rural Credit, six Savings and Loans, and three Padi Savings Societies. In general the activities of the co-operative societies in the district were mediocre. Four of the co-operative societies went into liquidation.

### Public Works

The Administration constructed eleven Indian bridges along Kampong Lintang to Kampong Sajong Road, and these were paid for out of the Roads and Bridges—Minor Road Fund Division Vote.

All Government Quarters and Police Barrack were installed with aqua pipes by the end of the year. The old Police Barracks was sold by public auction for \$999.00.

The river clearing of Batang Kanan and Batang Kiri of Simunjan river was completed at end of December, 1963, and was paid for out of the Waterways—River Clearance Vote.

In October this year, the Seventh Day Adventist Mission of Ayer Minda School, Serian, constructed a new light aircraft landing strip of 1,200 feet by forty feet approximately, situated at Kampong Monggo-Apong of Batang Kiri, Simunjan.

The roads of Kampong Nanas, Kutika and Sabon require earth filling. It is hoped that the construction work will be carried out in 1964.

### Consolidary

Early in the year the Police Force strength in this district consisted of one Sergeant and ten other ranks of the force, but at the end of the year the strength was reduced to one Sergeant and six other ranks owing to shortage of accommodation.

### Prison

The prisoners were sent to Kuching, as they had to serve a term exceeding one month.

### Education

Luckily a good number of children from this district were selected for Lower Secondary School at Simunjan which opened in 1964. Since a good number of children were selected, the principals and staff of the primary schools are very much to be congratulated.

The Council schools had 1,459 boys and 670 girls on the register, the Chinese schools 463 boys and 257 girls and the Mission schools 122 boys and 53 girls. This is an increase compared to 1962.

Only six teachers out of a total of 74 teachers were selected for training at Batu Lintang Teachers Training College in 1964.

Three new schools were opened during the year, at Sungai Lingham, Kampong Topahan and Kampong Enang.

One new school was illegally opened at Kampong Sengulias on the Simunjan Kiri at the beginning of the year. It was then ordered to be closed, as permission had not been granted.

During the year the Council completed two new school buildings at Sungai Pulin, Kampong Gelong, another four were still under construction.

A five-day course for District Council teachers was held at Abang Man School at the beginning of the year.

### Forestry

Out of the five sawmills, two had the courage to install modern Japanese made bandaws, although the price of Kuala timber remain low throughout the year.

A total of 36,225 tons of sawn timber and 86,137 tons of logs was exported from the district during the year.

The revenue derived from the payment of royalties amounted to \$284,768.47, compared with the figures for the corresponding period of 1963: \$279,808.14, an increase of \$284,960.33.

An annual felling of virgin jungle for padi planting is still being carried on in the areas of Ulu Simunjan Kanan. People there were convicted of this offence.

A six-door barrack belonging to Kuching Timber Store Sawmill at Simunjan was completely destroyed by fire in the early hours of 22nd March, 1963. The estimated value of the barrack and property destroyed was \$11,000.

### Shipping

Apart from Government launches, 229 incoming and 378 outgoing launches during the year were recorded, and revenue collected from Bury and Lighter Dues amounted to \$40,536. There are regularly four commercial vessels plying between Simunjan and Kuching, which give good and quick service to local people here.

### General

In December, 1963, His Excellency the Governor of Sarawak, Dato Abang Haji Openg, accompanied by the Minister for Local Government, the Honourable Mr. Damsan Endawie, toured the district. On the arrival at the town, His Excellency inspected a Guard of Honour and then was introduced to community leaders by the District Officer. He then inspected various Government Offices as well as Lower Sabong District Council Office, and the half completed new Chang Hui School Building.

Later in the evening, His Excellency held a reception at District Officer's bungalow, and at night, went to an all community reception held at District Office.

The following morning, His Excellency the Governor inspected Abang Man School, the Local Mosque and the old Chang Hui School where he attended a reception given by the Board of Management. He then left Simunjan for Kampong Gelong where he was given a warm welcome by the kampong people including school children, who sang the State Anthem. He went on to visit the recently-completed Abang Kadir School, and also attended a reception before leaving for Serian on his way back to Kuching.

Land Sports and Regatta were held at Simunjan on Sarawak Day. The Consolidary Band played for two days, and in the evenings beat the Retreat with light, which was admired by the public.

Football leagues with twelve teams competing went smoothly.

Land Sports and stage shows were also held on the Malaysia celebrations.

### Lower District

District Officer—M. M. McParran

### Court

There was an increase of eight cases heard in the District Court. Of offences committed two were under the Customs/Excise Ordinances, ten under the Societies Ordinances as accused were connected with the management of the TNGU and eleven under the Arms and Explosives Ordinances for illegal possession of weapons or ammunition.

There was a decrease in Civil Court hearings this year. A number of debt cases were brought before magistrates who managed to settle them in chambers.

### Agriculture

**Padi.** The Assistance to Padi Planters Scheme is making impressive progress throughout the district. Schemes at Miripok and Mile 4 Trusan Road are flourishing and more schemes are now being started in the Ulu Trusan. Most of the credit for this work must go to Assistant Agricultural Officers, Abdul Hamid.

**Padi crops** in the Lower Trusan were severely damaged during the floods early in the year. Elsewhere harvests are promising.

**Rubber.** 258 acres of rubber were planted under the Rubber Planting Scheme during the year bringing the total now planted to 4,317 acres. More frequent inspections are necessary if maintenance is to be kept up to scratch.

**Livestock.** Buffaloes are often regarded as an investment rather than a means of making more money and the arrangement whereby control of exports from the district was fixed by a quota system has tended to perpetuate this. Of recent years, the quota has been fixed by the Buffalo Sub-Committee of the District Council, but this Committee has now been dissolved and it should be possible to devise a more flexible system.

Livestock can play a leading role in the development of the Ulu Trusan. Buffalo, cattle and pigs thrive in the area and can always be touched out on the hoof if necessary.

Long Sakang and Long Lantik in the Ulu Tempoo are keen on going in for livestock rearing in a big way. They have some very healthy looking cattle and wish to improve the strain further with the aid of a stud bull. They propose to fence their buffaloes and cattle and the assistance of the Agricultural Department in these matters has been requested. The Ulu Tempoo is a fertile valley with relatively gentle contours and an average height of 1,200 feet above sea level. Animals thrive. It is only a day and a half walk to the end of the Lawas Damit Road.

**Cinnamon.** Little has been achieved with new planting.

**General.** Much has been written over the years on the agricultural potential and development of the Ulu Trusan. Problems are similar to those of the Kelabit country and the combined memorandum and reports on these areas fill many files. Yet much is still being written and very little achieved. Muchrooms may be a possibility and this is being investigated. The time has come to decide on a policy and follow it up without delay. Unless an economic air freight crop or crops can be established in the interior there will be a gradual drift of population to the towns which would be a tragedy.

### Local Authority

The administrative machinery of the Council is still not ticking over as it should. The Secretary is also the Treasurer and is tied to the office. With the appointment of a Treasurer in 1964 he will be free to tour the district and ensure that the Council's decisions are understood and put into effect. There is still far too little awareness of what Local Government is all about.

### Elections

Elections went off without a hitch and six Alliance and nine Independents were returned. Racha Umang of Long Kerebangan was elected Chairman. He is also Chairman of the Sibang Injil Service.

The Council is desperately short of funds and little can be done about it unless the present grant system is revised in favour of the rural councils. Certainly no rise in rates can be contemplated at present.

### Education

Standards in the Council schools are low. Out of a total of 117 who took the examination for entrance to the Secondary School only thirty-three passed. There is urgent need for a Group Headmaster in this district. One was promised for 1963, but was posted elsewhere following the election in December, 1962.

School buildings also require most attention. Long Loping School is to be rebuilt. The Council has agreed to spend \$6,000 on reconstruction. The agreement at first was for a building 75 feet by 25 with half roofing and earth floor. The Muruts have since agreed to raise the building and put in a plank floor, but even so the roof is high. The Lawas District Council does not insist on a local contribution, which all too often means that the school committees think in terms of what they can make out of the building rather than what they can put into it for the good of their children.

The old Long Loping school building is past repair and classes have been held in the church for the last year. Children went under very difficult conditions, writing on their knees or squatting on the floor and writing on the low benches. The new building will not be ready for about four months. The new site has an excellent view of the Loping and Trusan rivers.

At Long Semadoh boarder accommodation is pathetic. Buildings about the size of harkouses have been put up by the children themselves. These will be demolished before they fall down and the Council will take urgent action to assist the school committee to replace them. If the Council provides nails and pine and possibly part of the cost of the timber the Committee should be prepared to do the rest themselves. A Primary V Class is to be opened next year and the shortage of boarder accommodation will be acute for 1964 until the new buildings are completed. The table is not now occupied and this will be used as temporary boarder accommodation and teacher's quarters.

**Long Lantik.** Long Lantik, in theory, is the central lower primary school for Pa Berapong, Berapong, Long Sakang, Long Lantik and Long Ransang. Only four from the Berapong houses attend. Again boarder accommodation is appalling and it is essential that very early action is taken to improve it. The school committee request that the Council should assist with half the cost. No provision has been made for this in the Council's estimates, but as with Long Semadoh the Council will provide saw and nails and get the School Committee to organise the rest.

The teacher's quarters is a temporary building and cannot last much longer.

The school building leaks badly in two of the classrooms. The desks are badly made and very unstable and the earth floor doesn't help. Many of the desks and benches have holes in places, but there are only fifty-two children at school at present and desks are sufficient for the time being.

The school garden is deficient. A lot of work was put in a few years ago in terracing and planting coffee and other crops. This has also been neglected. It is a pity because vegetables from the school gardens are essential to the success of the school feeding scheme. The headmaster now proposes to plant more potatoes which will help.

In addition to the teaching, a Group Headmaster would be able to ensure that buildings were properly built and maintained and it is hoped that the Education Department can post one to this district in 1964. The School Affairs Officer is tied to other work and cannot get out enough.

### Development

Following completion of Long Semadoh shortly, much thought has been given to development of the Ulu Trusan. It will be very many years before this area can be linked by road to the coast and the

local point for development will be Long Semadoh airstrip. There are four Murut longhouse settlements within an hour's walk of the airstrip and a total population of about 1,500 within two days' walk. There is some fertile soil within the vicinity which could support a considerably larger population than at present provided that all cultivate irrigated paddy. This was first started about four years ago and more will be opened up next year leaving hill land available for cash crops.

Which will depend on the establishment of cash crops and weaving at least some of the Muruts from subsistence farming to a cash economy. The first essential is to establish a crop or crops which can be economically transported by air. The advice of the Agricultural Department is sought on this. Experiments have now been going on in the interior for several years and it should now be possible to make a decision. Mainstream cultivation may be possible. Livestock rearing should be encouraged. Tobacco is very delicately cut. The Muruts will not plant it, and it is a waste of time trying to persuade them to do so. In any case cultivation and processing of high grade leaf is a highly specialised business.

It is proposed that a development area should be declared in the Ulu Trusan control on Long Semadoh airstrip. A rural development project should then be established where trainees would learn new skills in woodwork and metalwork and concentrate in agriculture. The type of cash crop most suitable for the area would be planned and sent out by air. Other Muruts in the area would then learn to improve methods by example. The Officer-in-Charge of the scheme would have to be a person with an understanding of the Muruts and their language. He would also be able to co-ordinate the work of all departments.

#### Communications

**Rail.** The commercial service between Lawas and Limbang has improved somewhat, but it is still thoroughly unreliable and the *Asah* continues to make weekly rail trips.

**Air.** Work on improvement to Long Semadoh airstrip was completed in September. The original strip of 1,400 feet x 60 feet was built voluntarily by the Muruts for use by the mission aircraft. It was improved and extended to 1,800 feet and widened to 120 feet by the Public Works Department at fantastic cost. Yet it was supposed to be a self-help scheme.

A once weekly service Lawas/Long Semadoh by the Borneo Airways Limited Twin Pioneer commenced on 12th November, 1963. Passenger fares are £100 each way. Freight rates were initially £-40 a kilo and these have since been amended to £-55 a kilo in and £-25 out in order to attract outward freight. Freight on a quantity of rice is 90 cents and it will soon be profitable to fly this one pending introduction of more economic cash crops. The service is being subsidised by Government and it is important that the airstrip should operate to its near full capacity as possible.

The twice weekly Brunei/Lawas service has been better patronised and the plane has been full on several occasions.

The Borneo Evangelical Mission "Piper" has continued to render sterling service to the people of the interior and to government. It has been of very great assistance to the administration in work connected with the emergency.

**Roads.** The Public Works Department is making an excellent job of the Lawas Death Road. It is a gravelled surface and when completed should be an all-weather road.

The Trusan Road is not so good and parts have to be closed after heavy rain.

A survey has started on the Pansang Road with a view to bringing it up to Federal Road standard. Work is to start early in 1964.

Bridges on the Mirapok Road were repaired. This road has previously been maintained by the administration, but it is to be handed over to the Council in 1964.

#### Forestry

There have been a large number of accidents connected with logging. Action is being taken to enforce safety precautions on the advice of the Section Forest Officer.

I can foresee some headaches in allocation of the £100 per ton timber cess. Initially it was proposed that this should be paid into a central district fund, but this may not be as straightforward as was at first thought.

Most of the timber is exported as logs. Some is served across to Labuan for loading there and some loaded direct into Japanese ships lying off the mouth of the river.

#### Saga

Ismae Basing bin Mohamed Nor was District Officer until 19th September when he handed over to Mr. M. McPherson. He is now based over to Ismae Abdul Rahman bin Awang Harunah on 10th December.

#### Native Affairs

**MURUTS.** The birthrate amongst the Muruts is increasing and there are now some impressively large families in the Ulu Trusan. The activities of the Borneo Evangelical mission, Ulu Trusan Mission and an increasing awareness of the importance of hygiene have all contributed towards this. There are many, including myself, who sometimes deplore the attitude of the old rogues in the Murut country, but an insight into conditions before the impact of Evangelical Mission helps to ally the distrust. The following is an extract from an account of a visit to the Ulu Trusan which appeared in the *Sarawak Gazette* dated August 1st 1961. "The great curse and reason of the degeneracy of the Muruts is drink. All their activities are carried out with the aid of koral, and I estimate a quarter of the whole life of a Murut, which is seldom longer than about twenty years, is spent under the influence of drink. When in drink, they are quarrelsome, and it is from these drinking feuds that the blood feuds, of which the Murut country is full, spring. A blood feud once started may last for years either side waiting their opportunity. The Murut is one fiend of fighting or feuding, and there is miserable madness about his past life a future. Disease is rife right through the country, venereal syphilis, consumption, and fever are gradually taking off the Murut race that was once a power in the land." A sobering thought.

Housing standards amongst the Muruts are generally poor. The longhouse system is not satisfied as is the case with other upriver peoples and houses have tended to split into sections or individual units.

In the Ulu Trusan, there is no true bellies. Wooden shingles do not last more than eight years. In the past, leaf grass has been used for roofing. Wall made of this used to last for anything up to four years, but nowadays it is soon destroyed by air. Nobody seems to know exactly what it is but everybody blames the anti-material spraying. All are remarkably philosophic about it and many have resigned themselves to rotting, but this is expensive and not all can afford it. Leaf grass will continue to be used for some time and the cause of the rapid decay should be investigated. The Divisional Medical Officer is taking this up with the Department. Quite apart from other considerations, everything possible should be done to maintain the present excellent relations between the Muruts and Sarawak Malaya Education Project.

Pendak's Langap's house at Long Maab was destroyed by fire in April.

**Malays.** The Awat-Awat Malays have been very upset recently by the refusal of the Wusun fishermen to permit them to fish in their waters. They complain that the Awat-Awat people frighten away the fish by their more powerful engines. They also complain of damage to nets.

Most of the Kuala Lurus Malays are taking up post farming in the Mempok area.

Kadayan in the Mempok area are doing excellent. *Chinese Affairs*

By the end of the year, the long-awaited Lurus-Bassar asphalt trunk was nearing completion. Now the better roads remain to be surfaced. Some excellent shops have been built and well maintained but it is quite impossible to keep them clean in dry weather when dust blows up.

Arrangements for stem clearance from the old basian area are under way and gradually Lurus should become one of the finest basians in the country. There is a half-finished look about it all at the moment.

#### Emergency

Murats of the Ulu Trusan, trained as Border Scouts, are assisting the Security Forces in operations. In August they unfortunately lost one man, killed during follow-up operations with the Gurkhas against a TNEU gang which had infiltrated from Indonesia. The presence of the gang had been discovered when six men in plain clothes arrived at Long Loping and asked for food. The Murats were suspicious and kept them until Gurkhas arrived to take them prisoners. They were subsequently surrendered. A large quantity of arms and ammunition was recovered. In September, a further two infiltrators were discovered by the people of Long Tempon and taken prisoners.

R.A.F. aircraft and helicopters have rendered valuable service to the people of the Interior by flying out the sick.

There were three tragic accidents. In January, a Council motorist lost a leg when a helicopter made a forced-landing. A Chinese boy of seventeen who leapt out with the motorist, instead of remaining in the aircraft, was chopped by the blades and later died in hospital. In April, an R.A.F. Twin Pioneer crashed in the Ulu Trusan with the loss of five lives while flying low searching for a lost Sarawak Ranger's patrol.

In May, an R.A.F. Belvedere crashed near Long Mempok in the Ulu Trusan. All occupants were killed. A memorial consisting of a plaque mounted on a cairn of stones and a wooden cross has been erected at Long Mempok.

#### Public Works Department

A New House was opened in Lurus in 1962. It has only two bedrooms and is very often full. An extension will soon be required. A kitchen, bathroom and lavatory is also required for the caretaker and his family.

Most of the Public Works Department effort throughout the year has been directed towards construction of the Lurus-Bassar Road and Long Semadoh Airstrip. But other projects have also been completed and plans prepared for new work.

The Public Works Department has made progress on the basian supply tanks. At the end of the year, one had been completed and the next under construction. It will be a great day for Lurus when these are opened and the pit latrines removed. *Phone and Telegraphs*

The Lurus telephone service is efficient during office hours and the second link to Limbang has improved the service considerably. But, after office hours and on public holidays, it is often chaotic. The exchange is an old one and very impractical and the police change over too frequently nowadays that few of them are in Lurus long enough to understand its ways. In any

case, exchange operation is a specialist job and it should not be a police task. A second operator has now been approved which will help, but a twenty-four hour Posts and Telegraphs manned exchange is necessary.

All calls from Lurus are routed through Limbang. A separate link to Sabah would be useful. Splitting is only one-and-a-half hours away by outboard, yet it takes so long to contact by telephone and reception is poor. Requests for connection to Trusan were refused. Sawmills and logging sections bordering the Trusan/Lurus Road also require telephones and it is hoped that a line can be installed. Meanwhile a Radio-call service set in to be installed at Trusan. Others will be installed at Kuala Lurus and Mempok.

#### Labour

Labour affairs require more attention. A Sarawak Administrative Officer spends a large part of his time on workmen's compensation and labour affairs generally.

#### Co-operative

A Co-operative Stores Society was established at Long Semadoh at the end of the year. A Murat has been named as a secretary and great things are hoped for from this society next year. But it will require very careful supervision.

The *Ashahan* Co-operative Office, Miri, has put in a lot of good work in publishing the co-operative movement throughout the district.

#### General

Lurus District has tremendous potential and is one of the finest in the country to live in. It is unique in Sarawak in that the main town is only half-an-hour's travelling from the sea or air.

#### Malaysia Celebrations

The Malaysia Celebrations Committee was in full swing preparing for the celebration of Malaysia on 31st August, but an announcement that it was postponed to a later date, then unknown, perturbed the committee and some members even suggested the celebration should be carried out as planned. Notices of postponement had to be delivered at speed everywhere in the district and also again later when the Malaysia date was known. The biggest gathering ever remembered in Lurus was every old man's comment on the celebrations and this summed up the greatness of the celebrations, which took place for two-and-a-half days and three nights. There was a regatta, land sports, concert, dances and all of all attractions the participation of men of the Gurkhas in the regatta was the greatest. The Gurkhas, as everyone knows, come from very far up-country, and sending of course could be imagined to be from one bank to another, it took the last four hours about twenty minutes to cross the finish, the distance being only 250 yards. Other competitions were football, badminton, volleyball and basketball. The title of Miss Lurus and Miss Kutepa Malaysia Lurus both went to Miss Sabita Imin Lami, the Headmistress of Lurus Central School. There were rumours that the participants in these contests wanted to appeal against the decision, but it was agreed that judgments were final. There were two entries for the Bamboo Band competition, the first prize went to Long Tukan School and second to Long Tama School.

It was to everyone's regret that the Indian football team from Long Semadoh, Bab Kichin and Long Latak did not come down as their camp there were anxious for the safety of their daughters not in the month, but because of the existence of bandits along the path. This was unfortunate, but contact between Security Forces and them occurred in the third week of August at Long Loping. However, two Indian teams were taking part, both from villages along Gaya Road and Lurus-Bassar area, an area less than one hour's walk above Lurus town. The Lurus Mission B team beat the Lurus Mission A team in heavy downpour amid cheering of the crowd and soldiers in camp nearby. The match was very smoothly and respectably played.

## Arrivals and Departures

## Arrivals

- Mr. F. W. Giles and family (family appointed and Deputy Resident of Police) By flight ML 497 Singapore/Kuching on 2.1.64. On first appointment.
- Mr. A. R. Broadhurst (newly appointed Executive Engineer (Roads), Public Works Department) By flight ML 497 Singapore/Kuching on 2.1.64. On first appointment.
- Mr. & Mrs. M. S. Reid (newly appointed Architect, P. W. D.) By flight ML 497 Singapore/Kuching on 11.3.64. On first appointment.
- Mr. & Mrs. P. G. Thornbury & two sons (newly appointed Executive Engineer (Roads), P.W.D.) By flight ML 497 Singapore/Kuching on 11.3.64. Returning from leave.
- Mr. J. D. B. Penson By flight ML 497 Singapore/Kuching on 11.3.64. Returning from leave.
- Mr. & Mrs. G. H. Lamb and son By flight ML 497 Singapore/Kuching on 11.3.64. Returning from leave.

## Departures

- Mr. E. H. Legg By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave prior to retirement under the Compensation Scheme.
- Mr. & Mrs. M. F. J. Whiting & three children By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to Australia on leave prior to retirement under the Compensation Scheme.
- Mrs. C. J. McLafferty & two children By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom.
- Mr. S. E. Corry By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave prior to retirement under the Compensation Scheme.
- Mr. & Mrs. Justice A.M. Simpson By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave.
- Mrs. V. R. Jinks & two children By flight ML 497 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom.
- Mr. & Mrs. C. B. Larnack and daughter By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave.
- Mr. P. J. Wells By flight ML 497 Kuching/Singapore on 4.3.64. Proceeding to the United Kingdom on leave.

- Mr. G. M. Williams By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to Australia on leave prior to retirement.
- Mr. & Mrs. H. S. Brown and one child By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave prior to retirement under the Compensation Scheme.
- Miss J. E. Lott By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to Australia on leave.
- Mr. & Mrs. R. L. V. Wilkes By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave on completion of contract.
- Mrs. C. J. McLafferty & son By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave.
- Mr. & Mrs. A. F. R. Griffin & child By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave.
- Mr. & Mrs. A. F. R. Griffin and son By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave.
- Dr. & Mrs. W. J. Thom and two children By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on completion of contract.
- Mr. & Mrs. J. Robinson By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on leave.
- Mrs. M. Sykes By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom.
- Mr. & Mrs. A. J. M. Richards and one child By flight ML 497 Kuching/Singapore on 11.3.64. Proceeding to the United Kingdom on leave prior to retirement.
- Mr. & Mrs. J. M. Bailey and two children By flight ML 496 Kuching/Singapore on 11.3.64. Proceeding to the United Kingdom on leave.
- Dr. D. G. Carter By flight ML 496 Kuching/Singapore on 11.3.64. Proceeding to the United Kingdom on completion of contract.
- Mr. & Mrs. W. D. Ferguson & two children By flight ML 497 Kuching/Singapore on 11.3.64. Proceeding to the United Kingdom on completion of contract.
- Mr. & Mrs. R. H. Moore By flight ML 496 Kuching/Singapore on 11.3.64. Proceeding to Australia on leave prior to retirement under the Compensation Scheme.
- Mr. & Mrs. C. A. Millard and 1 child By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on completion of contract.
- Mrs. M. R. Plonkner and two children By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom.
- Mr. & Mrs. W. S. Harris and two children By flight ML 496 Kuching/Singapore on 2.1.64. Proceeding to the United Kingdom on completion of contract.

## Recent Books

## Additions to the Sarawak Library during February and March, 1964.

| AUTHOR                                        | TITLE                                                         | AUTHOR                                | TITLE                                                                                                                                                                                       |
|-----------------------------------------------|---------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Crime and Detection</b>                    |                                                               |                                       |                                                                                                                                                                                             |
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| Brown, Eric                                   | <i>The Laughing Policeman</i> . 1963.                         | Higham, David                         | <i>Expert Working</i> . 1963.                                                                                                                                                               |
| Chabon, M.E.                                  | <i>Early in the Night</i> . 1961.                             | Holt, Victoria                        | <i>Brick of Penderbury</i> . 1963.                                                                                                                                                          |
| Cham, James Macley                            | <i>Tell It to the Birds</i> . 1963.                           | Hoyle, Fred and Hoyle, Geoffrey       | <i>1964 Plans</i> . 1963.                                                                                                                                                                   |
| Christie, Agatha                              | <i>The Clocks</i> . 1961.                                     | Jenkins, Elizabeth                    | <i>Belongings</i> . 1963.                                                                                                                                                                   |
| Crooney, John                                 | <i>Leave It to the Feds</i> . 1963.                           | Kay, Frances                          | <i>Melrose Court Lodge</i> . 1963.                                                                                                                                                          |
| Crooks, Michael                               | <i>Murder Witness</i> . 1963.                                 | Lanning, Derek                        | <i>A Man and two Women</i> . 1961.                                                                                                                                                          |
| Cumteland, Martin                             | <i>Prescript to a Death</i> . 1963.                           | Lewis, Miles                          | <i>A Moral Motion</i> . 1963.                                                                                                                                                               |
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| Deighton, Ian                                 | <i>Home under Fire</i> . 1963.                                | Moit, Kathleen                        | <i>An Elderly Retired Man</i> . 1963.                                                                                                                                                       |
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| Flaggstad, Nils                               | <i>The Day of the Soldier</i> . 1963.                         | Shibus, Alan                          | <i>The Rayman's Daughter</i> . 1963.                                                                                                                                                        |
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| Macdonald, John D.                            | <i>One Monday we killed Them E.E.</i> . 1963.                 | Wrightman, Collier                    | <i>Stardust Fire</i> . 1963.                                                                                                                                                                |
| Macdonald, Nigel                              | <i>Death in the Swamp</i> . 1963.                             | <b>NON-FICTION</b>                    |                                                                                                                                                                                             |
| McKinney, James                               | <i>It Rains to E.E.</i> . 1963.                               | April in March                        | <i>Male Customs and Traditions</i> . 1963. 1963.                                                                                                                                            |
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| van Quik, Robert                              | <i>The Maudsley Laboratory</i> . 1963.                        | Brown, Cyril Stanley                  | <i>Structural Design and Practice</i> . 1963. (234-1).                                                                                                                                      |
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| Clegg, Stuart                                 | <i>Age of Glory</i> . 1963.                                   |                                       |                                                                                                                                                                                             |
| Cole, Manning                                 | <i>The House at Plod's Gate</i> . 1963.                       |                                       |                                                                                                                                                                                             |
| Compton-Burnett, by Dickinson, William        | <i>A Girl and his Gifts</i> . 1963.                           |                                       |                                                                                                                                                                                             |
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| Fair, Howard                                  | <i>Power</i> . 1963.                                          |                                       |                                                                                                                                                                                             |
| Fraser, Janet                                 | <i>Scattered Gardens for the Blind</i> . 1963.                |                                       |                                                                                                                                                                                             |
| Gaskell, Jane                                 | <i>The Legend</i> . 1963.                                     |                                       |                                                                                                                                                                                             |
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| Hobson, Karle                                 | <i>Larger than Life: twenty short stories</i> . 1963.         |                                       |                                                                                                                                                                                             |



| AUTHOR                                  | TITLE                                                                                                                                           | AUTHOR                                                | TITLE                                                                                                                      |
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| Cato, James                             | <i>Japan Today: selected ed.</i> . 1963. 1957.1                                                                                                 | Gray, Thomas S.                                       | <i>Applied Electronics: a first course in electronic, electronic tubes and associated circuits</i> . 2nd ed. 1963. 1957.14 |
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| Chippendale, Dick                       | <i>My Friends the Animals</i> . 1963. 1961.20                                                                                                   | Greenwell, Ronald Ray                                 | <i>Geology for Geographers</i> . 1963. 1957.                                                                               |
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## ABSTRACT OF METEOROLOGICAL OBSERVATION FOR THE MONTH OF FEBRUARY, 1964

| Division             | Station                     | Latitude N. | Longitude E. | AIR TEMPERATURE IN DEGREES FAHRENHEIT |           |           |           |           |                     |                    |      |                       |      | WIND DIRECTION IN DEGREES FAHRENHEIT |      | Thunder (ft) at 1 in. | RAINFALL              |      |      |                   | Height<br>Station<br>ft. |
|----------------------|-----------------------------|-------------|--------------|---------------------------------------|-----------|-----------|-----------|-----------|---------------------|--------------------|------|-----------------------|------|--------------------------------------|------|-----------------------|-----------------------|------|------|-------------------|--------------------------|
|                      |                             |             |              | Mean<br>Temperature                   |           |           |           |           | Assumed Elements    |                    |      |                       |      |                                      |      |                       |                       |      |      |                   |                          |
|                      |                             |             |              | 1<br>p.m.                             | 2<br>p.m. | 3<br>p.m. | 4<br>p.m. | 5<br>p.m. | High<br>Temperature | Low<br>Temperature | Day  | Lowest<br>Temperature | Day  | Lowest<br>Temperature                | Day  |                       | Lowest<br>Temperature | Day  | Date | Day<br>of<br>Year |                          |
| HONOLULU<br>DIVISION | Ranking Airport<br>Honolulu | 21° 17' N.  | 157° 51' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Trickett, Assam             | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | A. Chan                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
| HONOLULU<br>DIVISION | Ranking Airport<br>Honolulu | 21° 17' N.  | 157° 51' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
| HONOLULU<br>DIVISION | Ranking Airport<br>Honolulu | 21° 17' N.  | 157° 51' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
| HONOLULU<br>DIVISION | Ranking Airport<br>Honolulu | 21° 17' N.  | 157° 51' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
| HONOLULU<br>DIVISION | Ranking Airport<br>Honolulu | 21° 17' N.  | 157° 51' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |
|                      | Malinao                     | 1° 17' N.   | 113° 22' E.  | 75.0                                  | 80.4      | 78.3      | 80.7      | 71.0      | 80.0                | 78                 | 71.0 | 71.0                  | 71.0 | 71.0                                 | 71.0 | 1                     | 24                    | 1964 | 59   | 24                | 111                      |

## Rucking Market Price List

February, 1964

Average

| Rice—(per gantang)              |      |
|---------------------------------|------|
| Local, White, Government Milled | 1.60 |
| Local, White, Milled            | 1.60 |
| Siam "A", 2½                    | 2.10 |
| Siam "B"                        | 1.70 |
| China Rice                      | 1.50 |
| Siam Broken Rice                | 1.50 |
| Rangoon                         | —    |
| Sugar—(per kati)                |      |
| White Sugar                     | .56  |
| Brown Sugar                     | .45  |
| Nepah Sugar                     | .50  |
| Salt—(per kati)                 |      |
| Coarse                          | .10  |
| Flint                           | .10  |
| Nepah                           | 1.40 |
| Flour and Bread                 |      |
| White Flour, per kati           | .25  |
| Bread, per small loaf           | .25  |
| Bread, per large loaf           | .45  |
| Milk—(per tin)                  |      |
| (a) Condensed                   | —    |
| (i) Liberty Brand               | .60  |
| (ii) Tea Pot                    | .60  |
| (iii) Milk Maid                 | .60  |
| (iv) Local Fresh Milk           | .50  |
| Eggs—(per doz)                  |      |
| Turkey                          | .10  |
| Duck, fresh                     | .15  |
| Duck, salted                    | .15  |
| Pond                            | .15  |
| Fat and Fat—(per lb.)           |      |
| Mutton                          | 2.00 |
| Vegetable Oil                   | .40  |
| Peanut Oil                      | .75  |
| Lard, No. 1                     | 1.50 |
| Lard, No. 2                     | .90  |
| Ghee                            | 2.20 |
| Dripping                        | .80  |
| Pork—(per kati)                 |      |
| Loin, No. 1                     | 2.00 |
| Loin with Fat, No. 1            | 2.40 |
| Pig                             | .80  |
| Ribs                            | 2.00 |
| Beef—(per kati)                 |      |
| Beef, fresh                     | 2.20 |
| Beef, Curry meat                | 1.80 |
| Beefsteak, No. 1                | 2.20 |
| Beefsteak, Curry meat           | 1.80 |
| Mutton, Australian              | 2.00 |
| Mutton, Local                   | 2.00 |
| Poultry—(per kati)              |      |
| Capon                           | 2.40 |
| Chicken Cooks                   | 1.80 |
| Pullet                          | 2.10 |
| Chicken Hens                    | 1.60 |
| Dayak Poultry                   | 1.70 |
| Ducks                           | 1.25 |
| Muscovy                         | 1.75 |
| Cocoa/Bird                      | 1.60 |
| Geese                           | 1.60 |
| Fish—(per kati)                 |      |
| Fresh Fish, No. 1               | 1.40 |
| Fresh Fish, No. 2               | .90  |
| Fresh Fish, No. 3               | .70  |
| Prawns, No. 1                   | 1.60 |
| Prawns, No. 2                   | .80  |
| Crab, No. 1                     | 1.20 |
| Crab, No. 2                     | 1.00 |
| Salted Fish, No. 1              | 2.00 |
| Salted Fish, No. 2              | 1.10 |
| Salted Fish, No. 3              | .70  |
| Vegetables—(per kati)           |      |
| Bamboo Shoots, salted           | .70  |
| Bamboo (Uluksay)                | .10  |
| Bamboo                          | .15  |
| Bayam                           | .25  |

## Vegetables—(per kati)—Contd.

Average

| Bean Sprouts                        | .30       |
|-------------------------------------|-----------|
| Cabbage                             | .60       |
| Changpok Mush                       | .38       |
| Cucumber (Timon)                    | .30       |
| Chilies, Red                        | .88       |
| Chilies, Green                      | .84       |
| Daun Bawang                         | 1.00      |
| French Potat                        | .38       |
| French Bean                         | .38       |
| French Beans                        | .38       |
| Garlic, fresh                       | 1.75      |
| Ginger                              | .80       |
| Kachang Panjang                     | .38       |
| Kanchang Ajer                       | .30       |
| Kanchang Koro                       | .40       |
| Kelach Batani                       | .15       |
| Kelach China                        | .30       |
| Ketela                              | .38       |
| Kerbau                              | .15       |
| Kunat                               | .20       |
| Laba                                | .15       |
| Laba Guri                           | .30       |
| Lada Fingus                         | .30       |
| Lettuce                             | .25       |
| Lubak (Chinese Radish)              | .60       |
| Lubak, white                        | .30       |
| Onions, Bombay                      | .15       |
| Onions, small                       | .20       |
| Potatoes, Imported                  | .30       |
| Prick (Bitter Guard)                | .28       |
| Sauerkraut, Imported                | .70       |
| Sauerkraut, Local                   | .60       |
| Turnip (Bush Assam)                 | .60       |
| Tomatoes                            | .80       |
| Trung (Brinjale)                    | .58       |
| Sauces, No. 1 (per bottle)          | 1.10      |
| Sauces, No. 2 (per bottle)          | .90       |
| Sauces, No. 3 (per bottle)          | .90       |
| Tea—(per lb.)                       |           |
| Tea, Ceylon                         | 4.00      |
| Tea, Chinese                        | 1.80      |
| Coffee—(per kati)                   |           |
| Raw, Java No. 1, Local              | 1.00      |
| Raw, No. 2                          | 1.00      |
| Powder (1st quality)                | 1.00      |
| Fruits—(per kati)                   |           |
| Pineapple (Local) (per kati)        | .15       |
| Pineapple (Tandak)                  | 12-25     |
| Nanas                               | 20-400    |
| Banana (per kati)                   | .20       |
| Snacks                              |           |
| Bean curd (per piece)               | .10       |
| Bean cake, white (per piece)        | .10       |
| Bean cake, yellow (per piece)       | .25       |
| Budians (per kati)                  | .70       |
| Charcoal (per piece)                | 8.50      |
| Coconut, fresh (fresh)              | .20       |
| Coconut, fresh (per tin)            | 1.20      |
| Dried Prawns (per kati)             | 2.00-3.00 |
| Kerosene Oil (per tin)              | 4.00      |
| Kerosene Oil (per bottle)           | .20       |
| Maizies, Local (per tin)            | .45       |
| Maizies, Imported (per tin)         | .40       |
| Soap, washing, local (per bar)      | .60       |
| Soap, washing, imported (per bar)   | .85       |
| Salmon (per tin)                    | 1.60      |
| Sardines (per tin)                  | .70       |
| Bako Wood (per panchang)            | 25.00     |
| Cigarettes                          |           |
| Flavies (per packet of 10)          | .50       |
| Smooth Rider (per packet of 10)     | .40       |
| Green "A"                           | .50       |
| White Eagle                         | .45       |
| Star Express (per tin)              | 2.85      |
| Capitan (per packet of 10)          | .45       |
| Star Express 215 (per packet of 10) | .55       |
| Lucky Strike (per packet of 20)     | .90       |

# Sarawak Gazette



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APRIL, 1964

| CALENDAR |         |       | MOON PHASES                                                                                                                             |                                        |  | HIGH WATER |      |
|----------|---------|-------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--|------------|------|
| English  | Chinese | Malay | ☾ 1st Last Quarter<br>☼ 12th New Moon                                                                                                   | ☾ 1st Full Quarter<br>☼ 26th Full Moon |  | KUCHING    | MIKI |
| Wed. 1   | 19      | 19    | Festival of Kuan Yin, the Goddess of Mercy.                                                                                             |                                        |  | 0800       | 1548 |
| Th. 2    | 20      | 20    |                                                                                                                                         |                                        |  | 0840       | 1611 |
| Fri. 3   | 21      | 21    |                                                                                                                                         |                                        |  | 0921       | 1640 |
| Sat. 4   | 22      | 22    | Kampung Tengk Jait Day's Birthday. Sarawak Turf Club Races.                                                                             |                                        |  | 1011       | 1712 |
| SUN. 5   | 23      | 23    | Low Season. C.M.E. Ming—Tong Festival.                                                                                                  |                                        |  | 1117       | 1757 |
| Mon. 6   | 24      | 24    | Teng Apengapeng or Oon Lay (B.C.). Institution of Mechanical Engineers Examination (Parts II and III) commences.                        |                                        |  | —          | 1830 |
| Tue. 7   | 25      | 25    | Teng Apengapeng or Oon Lay (A.C.R.).                                                                                                    |                                        |  | —          | 1910 |
| Wed. 8   | 26      | 26    |                                                                                                                                         |                                        |  | 0843       | 1959 |
| Th. 9    | 27      | 27    | Kapit District Council Meeting.                                                                                                         |                                        |  | 0938       | 2038 |
| Fri. 10  | 28      | 28    |                                                                                                                                         |                                        |  | 1004       | 2111 |
| Sat. 11  | 29      | 29    | Sarawak Turf Club Races. Opening of the Kapit District Football League.                                                                 |                                        |  | 1006       | 2149 |
| SUN. 12  | 1       | 30    | Low Season spring Barren. 1st day of the 1st Moon (No day).                                                                             |                                        |  | 1057       | 2232 |
| Mon. 13  | 2       | 1     | 1st day of 2nd Moon. Institution of Mechanical Engineers Examination (Part II) commences.                                               |                                        |  | 1058       | 2317 |
| Tue. 14  | 3       | 2     | Oon Paga, Gung Piy Birthday. London Chapter of Commerce Spring (Institution) commences.                                                 |                                        |  | 1023       | 2402 |
| Wed. 15  | 4       | 3     | Examinations close for the Practical Examination of the Associated Board of the Royal Schools of Music. Kapit District Council Meeting. |                                        |  | 0703       | 2408 |
| Th. 16   | 5       | 4     | Mening District Council Meeting.                                                                                                        |                                        |  | 0801       | 2446 |
| Fri. 17  | 6       | 5     | First School Term ends. Lower Sadong District Council Meeting.                                                                          |                                        |  | 0829       | 2527 |
| Sat. 18  | 7       | 6     | Sarawak Turf Club Races. Basketball Inter-School Meeting.                                                                               |                                        |  | 1001       | 2616 |
| SUN. 19  | 8       | 7     | Low Season spring Barren. Kuching Boat Club Long Distance Race to Santubong.                                                            |                                        |  | 1111       | 2717 |
| Mon. 20  | 9       | 8     | Lundu District Council Meeting.                                                                                                         |                                        |  | —          | 2801 |
| Tue. 21  | 10      | 9     |                                                                                                                                         |                                        |  | —          | 2849 |
| Wed. 22  | 11      | 10    | Rat Rays Day.                                                                                                                           |                                        |  | 0938       | 2937 |
| Th. 23   | 12      | 11    | St. George's (Bishop's) Birthday. Upper Sadong District Council Meeting.                                                                |                                        |  | 0941       | 3030 |
| Fri. 24  | 13      | 12    |                                                                                                                                         |                                        |  | 0941       | 3119 |
| Sat. 25  | 14      | 13    | St. Michael's Assn. Day. Sarawak Amateur Athletic Association Meeting.                                                                  |                                        |  | 0932       | 3202 |
| SUN. 26  | 15      | 14    | Low Season spring Barren. Boy Scout St. George's Parade.                                                                                |                                        |  | 0931       | 3250 |
| Mon. 27  | 16      | 15    |                                                                                                                                         |                                        |  | 0952       | 3337 |
| Tue. 28  | 17      | 16    | Kuching Municipal Council Meeting.                                                                                                      |                                        |  | 1029       | 3412 |
| Wed. 29  | 18      | 17    | Miri Urban District Council Meeting.                                                                                                    |                                        |  | 0704       | 3440 |
| Th. 30   | 19      | 18    | Kuching District Council Meeting.                                                                                                       |                                        |  | 0742       | 3505 |