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A STUDY OF RABAUl MARKET

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The purpose of the Rabaul Market Survey was threefold : Firstly, to study the price-forming mechanism, to find out how sellers arrive at a price which by previous observation was found to be almost uniform for the same commodity all over the market on any one day. Secondly, to study the part the market plays in the over-all Tolai economy ; and thirdly, to find out how the market fits into the whole Gazelle Peninsula economy.¹

Since I am not aware of any generally accepted technique to study markets, in particular native markets in under-developed areas, I shall start by outlining the techniques employed in the Rabaul market survey. I shall then go on to discuss the price-forming mechanism as I found it operating at Rabaul market, which will be followed by an evaluation of the part the market plays in the overall Tolai economy. Finally, I shall try to draw conclusions which emerge from this study.

Survey Techniques

Each Saturday morning almost all Tolai owned lorries, jeeps, landrovers and utilities, as well as many non-native owned vehicles, hired by the Tolai, converge on Rabaul—many trucks making several trips—to bring Tolai women with their produce to the market. On a Saturday in the Gazelle Peninsula it would be true to say that “ All roads lead to Rabaul ”. The first sellers arrive about 4.30 a.m. from which time onwards there is a constant stream of sellers arriving at the market until about 9 a.m. The market, referred to by natives and non-natives alike, by the vernacular term “ *Bung* ” is held on an open piece of land, an area of about one and a third acre, bordering the main Chinese shopping streets. There are two sheds, the larger of which, measuring about 240 sq. yards, is used for the display of European and Chinese type produce, such as lettuce, tomatoes, cabbages ; the smaller shed of about 100 sq. yds is rarely used at all except for native buyers who want to enjoy a bit of shade and get out of the burning sun, or to shelter from the rain. Most sellers squat on the ground and place their produce on leaves in front of themselves, or display their wares on rough bamboo tables while the sellers themselves settle down in the shade of the tables. Most of the sellers are women ; only about two per cent of the sellers on a Saturday and no more than one per cent on weekdays are men.

Though there are no rules laid down as to who may squat where, over the years a convention has developed by which each village usually occupies

1. The survey was conducted in conjunction with Dr. R. Salisbury, who concerned himself with studying the demand side of the market while I dealt with the supply aspect. He is still in the field and has not yet been able to write up his findings. I shall therefore not discuss the part the market plays in the Gazelle Peninsula economy until a future date when Dr. Salisbury and I will probably write a joint paper on Rabaul market.

a certain area of the market place (see map). Since there is also a certain specialization of produce according to villages—for example, Matupi women sell fish, wild fowl eggs and lime while Rapitok women sell taro, sweet potatoes and yams—there is also, to a certain extent, an order of seating according to produce. However, some women distribute their produce over a number of different places on the market and have it watched by their women friends or relatives. For instance, a Matupi woman may bring beans to the market and place them with a relative of hers from Tinganagalip in the European and Chinese type produce shed ; then she may put her lime on a table watched by one of her friends from Raluana, while she herself squats down and offers her cooked fish for sale. At intervals she goes round again to collect the money or shell money received for the sale of her goods. Thus there is a constant movement of sellers between different places at the market. Also many women leave their produce in the care of one or two of their friends or relatives while they themselves go off to do a bit of shopping. The Tolai regard the *Bung* not only as a place where goods can be sold and bought, but much more as a social meeting place. People from the many different Tolai settlements exchange gossip and news ; they arrange bride purchases and fix the date for feasts and mortuary rites. Many women just bring enough produce to the market to pay for their transport to Rabaul. For them the visit to the market is a social outing rather than an economic enterprise.

There is a great variety of goods sold. I counted about fifty different kinds of produce, not including their different varieties. (e.g. There are at least ten different varieties of bananas sold at Rabaul market.) My survey showed that on a Saturday there are slightly more than 2,000 sellers gathered at Rabaul market who make a total turnover of approx. £2,750.

This short introduction is merely to give a picture of what the market is like on a Saturday in order to throw into relief the difficulties involved in making a survey. It would have been practically impossible for one or two individuals to conduct the study on their own, but I was fortunate enough to get a number of Tolai agricultural field assistants² as well as some Tolai teachers to help me.³

Since most sellers arrive in some sort of vehicle I first of all posted one man at the road corner, which most cars entering the market had to pass, to note down what sort of vehicle entered the market ; i.e. a truck, jeep, landrover, utility, etc. Then I had one man on each of the four sides of the market who noted down the type of vehicle arriving, how many women it brought and their home village. The rest of my assistants, about 20 in all, each equipped with a number of forms, were placed randomly all over the market, where each recorded the following details of sellers and their sales : (1) the name, home village, type of transport and charge ; (2) the time of arrival, the number and price of each item brought for sale ; (3) sales with details of time, number and price as well as the ethnic group of the buyer, i.e. whether he was European, Chinese, Papuan, New Guinean or Tolai. Finally, when the seller left the market,

2. I am indebted to Mr. J. Berry and Mr. B. Johnston, both of the Agricultural Department, Rabaul, for their help in providing me with a number of field assistants. I also want to thank all those assistants, who so patiently recorded all the data under most trying conditions and without whose help the study would have been impossible.

3. My thanks are due to the ten Tolai teachers, who volunteered to help on Saturdays and who worked conscientiously without receiving any reward.

the assistant recorded the number of each unsold item. Each assistant recorded the details of three or four sellers in this way.

In order to establish the relationship between this random sample and the total universe from which the sample was drawn I counted the total number of sellers present at the market at about 9 a.m. on each day of my survey. The count of women who had come to the market by motor transport gave me a rough idea of the number of sellers, though not all women who came by vehicle were sellers nor did all sellers arrive by vehicle. About five per cent of women sellers on the Saturdays surveyed walked to the market. The count of sellers conducted at 9 a.m. seemed the only reliable way of ascertaining the total number of sellers, because there were very few sellers who left before 9 a.m. or who arrived after that time.

On weekdays there is much less activity at the *Bung* than on Saturdays, though weekday trading is steadily increasing. About a year ago hardly any trade was conducted during the week at the market at all, while in June '61 the average turnover on a weekday was about £110. The task of surveying the market during the week was relatively easy. The survey was started on the 1st June and conducted for a whole week. In order to check on the reliability of the first Saturday's results I conducted another survey on the third Saturday in June, which shows roughly the same results and thus bears out, to some degree at least, the reliability of the survey.

However, before we can draw conclusions from the results of this survey as to the annual market turn-over, we must note a few reservations. Firstly, there are seasonal variations, particularly in European and Chinese type produce, such as tomatoes, beans, cabbages and so on. The flush begins in June and reaches its peak in August, whereas January and February are the months of scarcity when the least produce reaches the market and prices are highest. Secondly, within the seasonal variations there are accidental differences from week to week. For instance during the first week of my survey there was not a single fish offered for sale, whereas on the second Saturday the market was swamped with fish. Matupi fishermen had been unsuccessful during the first week in June while they made an excellent catch in the third week. These reservations must be borne in mind when we come to examine the part the market plays in the overall Tolai economy.

The Price-forming Mechanism

Most items are sold in bundles of 1s. ; nothing is sold by weight. The convention of selling in one shilling lots makes trading a lot easier on the one hand, but it also creates difficulties. It is much easier to calculate prices in units of one shilling than to have to add up pence and shilling ; with items such as beans, which are small and where the quantity can be easily varied to change the price, no difficulty arises. But when it comes to items such as papaws or pineapples, which vary considerably in size, problems arise over the price. For instance I weighed two papaws : one weighed 15 lbs, the other only 5 lbs, but each was offered for sale at the price of 1s. However, very big pineapples are sometimes sold for 2s. each.

Since no produce is sold by weight price variation can be seen only in the variation of the size of the one shilling lots. Many sellers prepare their bundles before reaching the market, either before they leave their village or on the way to the market. There is a clear distinction between

the price mechanism as it operates with European and Chinese type produce, such as lettuce, beans, tomatoes etc. and native type produce, such as coconuts, taro, taro kongkong, sweet potatoes, etc.

(a) Price Mechanism for Non-indigenous Produce

Each day the prices vary, though only slightly, because the seller gauges the size of the one shilling lot she prepares for sale by the supply offered from her own village. For instance, if a lot of women take lettuce to the market from Tinganagalip, the women from that village may put three lettuce into a one shilling bundle. If, on reaching the market, they find that other villages have also brought a lot of lettuce and demand for lettuce seems slack, they will increase the size of the bundles from three to four lettuce, thus reducing the price from 4d. to 3d. a lettuce. Thus on any one day the supply price of produce is determined by those women who come from the village which supplies most of the particular item. The actual selling price then depends on the extent of the demand, but only if the price asked for the quantity offered is below the supply price. For if these Tinaganagalip women happen to come to the market and find that they are among very few sellers of lettuce, while the demand for lettuce is quite extensive, they will never try to reduce the size of the bundle to say two lettuce, thereby increasing the price from 4d. to 6d. per lettuce. This may seem inconsistent at first sight, but becomes easily understood if we bear in mind that gauging the extent of the demand is a very tricky business and requires a shrewd business sense. I think I am justified in claiming that there are very few market gardeners in the whole world, who have enough business experience to increase their prices if the state of supply and demand allows it. It is much more obvious to the seller when her prices are too high, than if they are too low ; for if the seller is left with a large part of her goods unsold for any length of time, she begins to look around and if she notices other sellers increasing the size of their bundles she follows suit, thereby reducing the price. But if she finds a rush on her produce, as is frequently the case with tomatoes at Rabaul market, she has little time either to look around to check up on the total quantity of her produce offered for sale at the market nor has she time to reduce the size of her one shilling lots.

A few enterprising Tolai women act as middlemen ; they buy tomatoes, lettuce, beans and other non-native type produce at the market and hawk it round the European and Chinese stores and private homes. By reducing the size of the one shilling bundles these Tolai traders make about one third profit. In the course of my survey I observed on a number of occasions women buying each ten small baskets of tomatoes at the market for 1s. each, re-arranging them into fifteen lots, then hawking them around the town and returning after a few hours having sold the lot at 15s.

There are signs that the Tolai market sellers base the size of their bundles on the experience they gained of demand as it operated on their last visit to the *Bung*. Though not a single seller comes to the market daily, and most of them come only on Saturdays, a few also come once or twice during the week. I observed three women who came on Monday to sell their tomatoes and again on Wednesday. On Monday they had prepared five small baskets, each containing two large and four small tomatoes, which they managed to sell right after their arrival at the market. Very few tomatoes offered were for sale on Monday and

a number of Chinese and European buyers were looking for them. On Wednesday the same women turned up each with eight baskets, each containing only one large, and three small tomatoes. However, on that day plenty of tomatoes were available, so in the course of the day they had to increase the size of their shilling lots so that they sold six instead of eight bundles apiece.

From the buyer's point of view the best time to come to the market, if he is looking for bargains, is in the afternoon, when sellers are ready to reduce their prices and one can buy more for one shilling than in the morning. (On the other hand of course the nicest produce will have been sold already by the afternoon.) However, there is a minimum below which very few sellers are prepared to sell and they would rather take their unsold produce home, than sell it at what they regard as unreasonably low prices. I have watched Chinese buyers, the shrewdest buyers of all, trying to buy three one shilling bundles of lettuce, each containing four lettuce, for two shillings late in the afternoon and being refused by one seller after another. The Tolai sellers preferred to throw the lettuce away—very few Tolai eat lettuce—rather than sell them at what they regarded as too low a price.

No Tolai seller ever attempts to undercut her neighbour's prices. It is this which makes for the uniformity of price all over the market on any one day. Rabaul market differs distinctly from any Eastern market, or even from say the market at Camden town, London, where a lot of barrow boys on a Saturday try to sell their wares to bargain hunters. At Rabaul market the prospective buyer can walk around examining the goods offered by as many sellers as he wishes without being invited to buy by any of them, while in India or at Camden town, anyone walking through the market is solicited by each and every seller who tries to impress on the buyer that his own goods are far better and cheaper than any other's on the market. The Tolai seller does not offer her goods for sale beyond displaying them to prospective buyers, nor is she prepared to bargain. On one occasion, I watched the Indian cook of a ship, docked in Rabaul harbour, trying to bargain with Tolai sellers when buying vegetables and fruit for his ship, but he was completely unsuccessful. He had to pay the price demanded or leave the produce behind. On walking through the market one gets the impression of facing a body of monopolistic sellers rather than a large number of small individual sellers in competition with each other. The sellers look as if they are not at all keen to sell their produce. Many a Tolai vendor packs up her unsold non-indigenous produce at about 10.30 a.m. and starts hawking it round the town. Here too there are usually a few women sellers who go round together without trying to compete with each other.

This lack of competitive spirit and absence of "sales drive" I attribute to two causes: Firstly, the widespread network of social relations among the Tolai reduces the desire for sellers to compete with each other. Since women from one village usually settle down next to each other on the market place, and also offer mostly identical produce, the sellers sitting in one vicinity are usually relatives as well as friends. This makes them reluctant to compete with each other in selling their produce. Then again, the matrilineal kinship system, coupled with virilocal marriage, makes for a widespread inter-village network of kinship and friendship relations between women from different areas. For instance, I saw one woman placing her sweet potatoes in the care of another seller. The first one was from Volavolo on the North-west coast of the Gazelle

Peninsula and the second was from Nevuneram, situated about 10 miles south-west of Rabaul and about 16 miles from Volavolo. When I enquired how the two women knew each other, they explained that the first one had grown up in Raluana and married into Nevuneram, while the second was born in Nevuneram and only married into Volavolo. It would never occur to the Nevuneram woman who looked after her own sweet potatoes as well as those belonging to the Volavolo woman to induce buyers to purchase her own in preference to those brought by her friend, nor would she try to increase the size of her baskets of sweet potatoes to attract buyers to purchase her own rather than those belonging to the other. Thus, the network of personal relations spread throughout the whole Tolai area neutralizes competition.

Secondly, according to tradition among the Tolai it is regarded as bad form to display greed in getting payment. Parkinson wrote in 1906 : It is interesting to watch large payments of *tambu* (shell money) being made or *tambu* distributions at feasts and to note the complete indifference displayed by those who pay or distribute the large sums of the highly treasured *tambu*, as well as by those who receive it, who do not look at it but leave it untouched lying next to themselves as if they had some inner repulsion to picking it up. All this, however, is only pretence, because there is nothing in the world which means more to the native than *tambu*.⁴ This mode of behaviour still persists among the Tolai of today. Frequently, it is not the seller herself who accepts payment for produce sold, but her neighbour, who later on hands the money over to her. This amounts to the same thing as leaving *tambu* lying untouched next to the recipient, showing reluctance to accept it. Tolai men would regard it as bad behaviour if their womenfolk showed great eagerness at the market to sell their produce.

Thus the virtual absence of competition is due to social rather than economic factors. Similarly, from an economic point of view it would be much more efficient if only three or four women took the produce to the market from each village instead of twenty or more women each bringing just enough to pay for their transport, but it is the attraction of going to Rabaul and meeting their friends and relatives from other villages, which makes women want to go to the market.

Though there are no records available of price movements at Rabaul market over the years, there are some indications that prices have been rising steadily, at least since the last war. An article in the *Pacific Island Monthly* of 1950 entitled " Even prices at the bung are going up and up " ⁵ brings out two interesting facts in this respect. It complained that the same quantity of tomatoes or beans which could be bought with a stick of tobacco, the price of which was sixpence right after the war, cost one shilling in 1950. Firstly, this clearly indicates a rise in prices, though no quantities are specified to compare 1950 prices with those of 1961. The article hinted that the reason for the rising prices was that the Tolai were getting wise to being exploited by the Chinese in their trade stores and therefore, wanting to get their own back at the Chinese, they were raising their prices at the market where most buyers were Chinese. The

4. Parkinson, R., *Dreissig Jahre in der Suedsee*, Verlag von Strecker und Schroeder, Stuttgart, 1907, p. 88.

5. " Even prices at the bung are going up and up ", *Pacific Island Monthly*, Vol. XXI, No. 3, 1950, p. 69.

author of the article ignores the facts of an all round rising price level coupled with a growing pattern of Tolai wants and an increasing European and Chinese population. Secondly the article brings out clearly the change-over from a semi-barter economy, where buyers paid with tobacco, to a purely cash economy where money is the only accepted means of exchange.

In pre-contact days exchange among the Tolai was facilitated by *tambu*. After first European contact, when the Tolai began to appreciate the white man's goods, they became eager to accept payment for their produce in tobacco, tools or weapons. Burry, who visited the Gazelle Peninsula in 1906 describes a native market at a plantation near Kokopo where natives were paid "for edible commodities with sticks of coarse tobacco, which is dearly loved by them. I saw three eggs taken from an old woman who produced them from some hidden receptacle in her scanty but filthy clothing, and she was given two sticks in return, and seemed well satisfied".⁶ Thus it appears that from the earliest days of European contact right till after the last war, the major means of payment for Tolai produce was tobacco. This contrasts with the fact that during the whole time of my market survey there was not a single transaction between Tolai sellers and non-Tolai buyers conducted in any medium save money. The recent conversion of the link between the Tolai and the wider economy from semi-barter to wholly cash throws into relief the very rapid and extremely recent economic progress of the Tolai.

It would be interesting to find out the long term reaction of supply to price changes, that is to say, whether or not Tolai growers vary the quantity they plant in line with prices prevailing at the time of planting. However, I am afraid there is no data available yet on this problem, nor was it possible for me to collect this information in the short time at my disposal.

(b) *Native Food Produce*

Long before European contact the Tolai had been trading their produce. This trade was brought about by the different ecology of coastal and inland Tolai and was facilitated by *tambu*. Hostilities between the different Tolai settlements and cannibalism prevented the development of a large central market in those days, but reports show that there used to be a chain of native markets reaching from the bush right down to the coast at which intermediaries bought and sold produce for *tambu*. A German official crossing the Gazelle Peninsula in 1888 described how he passed 7 native markets in the course of one morning's walk.⁷ In the same year Danks wrote : "Market is held on the coast every third day in a large number of places. Those who live very far back inland have their inland markets where they sell to those nearer the beach who in turn sell what they buy to the coastal people. These markets are so arranged that two are seldom held near each other on the same day. A man taking his produce to one market today, may take more to another tomorrow if he is so disposed, and if it is safe for him to do so. The coast people meet the inland people at these markets with their fish and articles

6. Pullen-Burry, B., *In a German Colony*, Methuen and Co., London, 1909, p. 95.

7. *Nachrichten ueber Kaiser Wilhelmsland und den Bismarck Archipel*, 1888, p. 155.

of European manufacture, and either sell them for *tambu* or barter for food and other things only obtainable in the country.”⁸

From this we see that the Tolai have a tradition of trading and were also used to a commonly accepted system of exchange, rather than straight out barter. *Tambu* in fact was the most desired object by the Tolai. No man was held in greater contempt than a spendthrift. Though after some years of European contact the Tolai became adjusted to the idea of accepting at first goods such as tobacco, weapons and tools and eventually money in payment for their produce and labour sold to Europeans, *tambu* remained the major means of exchange in intra-Tolai transactions. Even today about 25 per cent of all intra-Tolai trade on a Saturday at Rabaul market is conducted in shell money rather than cash. By convention the Tolai usually buy certain native-type produce with *tambu* ; for instance, almost all cooked food, such as fish, tapioca, or imbika (*Abelmoschu Nanihot* or native spinach), and peanuts, lime and taro are mostly bought with *tambu*.

It is difficult to assess a money equivalent for *tambu* because, first of all, the Tolai have the purely theoretical concept of one fathom equalling two shillings, which is a carry-over from German times when one fathom *tambu* was equated with two German Marks ; secondly, the purchasing power expressed in terms of money varies for different goods : for instance one fathom *tambu* will buy one chicken or one dozen taro, while the cash price for the chicken is about 12s. and that of taro is about 4s. ; and thirdly, the means of counting *tambu* is highly complex ; *tambu* is counted either by the number of individual shells, i.e. twelve shells or twenty shells constituting a unit called by a separate term, or in fathoms and fractions thereof. But there is no standard conversion rate between small change, i.e. individual shells, and large currency, i.e. fathoms of *tambu*. In fact I have not met a single Tolai who was aware how many single shells made up one fathom. My Tolai assistant to whom I put the question, was completely perplexed and could not grasp why I wanted to know.

In my evaluation of trade transactions in *tambu* I used an exchange rate of 10s. per fathom, based on the *tambu* and money price of peanuts and lime. Three bundles of peanuts or three small packets of lime sell for one shilling or 36 shells, while one fathom of *tambu* contains about 360 shells.

Native food produce, like non-indigenous produce, is arranged in lots of a shilling or multiples thereof, or in units of shell money. Thus six dry coconuts or four green coconuts sell for a shilling, while six small taro sell for two shillings and six large taro for three or four shillings ; one bundle of peanuts sells for 12 shells, one small packet of lime for 12 shells, and a medium one for 20 shells.

Though there are some price fluctuations from day to day for native type produce, due to accidents of varying supply and demand, there is very little seasonal variation in native food production, and so hardly any seasonal price fluctuation. Altogether prices of native food prod-

8. Danks, B., “ On the Shell-Money of New Britain ”, *Journal of the Royal Anthropological Institute*, Vol. 17, 1887-8, p. 315.

uce are much less flexible than those of non-indigenous type produce. However, on one Sunday, if by pure chance there is a short supply of taro while a forthcoming feast in one of the coastal villages creates a big demand, six small taro may be sold for three shillings and six large for four shillings, while on another Saturday, when there is ample supply and comparatively little demand for taro, six small taro may sell at two shillings and six large at three shillings. The prices for native food produce are only very rarely reduced during the day. Furthermore, goods which vary only little in size, such as coconuts and so on, have fixed prices.

Although native food prices are fairly stationary in the short run, there has been a considerable increase, at least in terms of *tambu* prices since the 1880's. Danks reports that in 1888 fifty or sixty taro could be bought with one fathom *tambu*, while in 1961 only twelve or eighteen were sold for that amount of *tambu*; twelve betel nuts could be bought with four shells in 1888⁹ while they cost twelve shells in 1961. Thus *tambu* prices approximately trebled during the last seventy-five years. However, Danks remarked already in 1888 that "all articles of food remain at much the same price".¹⁰

The lack of flexibility in native food prices can be attributed to three major causes. Firstly, the absence of seasonal variations makes for a constant price throughout the year. Secondly, the widespread network of social relations among the Tolai, which I have already mentioned above, does not only link sellers but also buyers and sellers. Thus a buyer is often a relative or friend of the seller. Standard prices eliminate the ill-feeling in personal relations otherwise caused by price differences between buyer and seller; they also cut out the hazards of competition and price fluctuations.

Non-Tolai native buyers account only for about 15 per cent of the total turnover on a Saturday while Tolai buyers make up approximately 40 per cent¹¹. Since non-Tolai natives, who are outside the network of Tolai social relations account for only a small percentage of trade and it is practically impossible to vary the price of commodities for Tolai and non-Tolai buyers, firm prices are the easiest and best means to facilitate trade among natives. However, since most items sold vary in size and quality, and goods are neither graded nor sold by weight, buyers still have the option to choose the size and quality of a particular produce which suits them best.

Thirdly, with native food items there is little temptation to reduce the price in the course of the day, even if the seller is left with a lot of unsold goods, because she can take them back to her village and get her family to consume them, or she may even be able to sell the stuff in her home village. This is one of the major differences between native food and non-indigenous produce. Any unsold non-indigenous produce is usually complete waste from the point of view of the seller, because it is normally of perishable character and is not consumed by the Tolai sellers themselves. Most native food is not as perishable as non-indigenous produce: lettuce and cabbages are usually dead at the end of a day at the market, whereas coconuts, betel, yams and sweet potatoes can

9. Danks, B., *op. cit.*, p. 308.

10. Danks, B., *op. cit.*, p. 307.

11. These figures are only approximate until Dr. Salisbury's results are available.

be stored for many weeks and even taro can be kept for a few days at least, and has the advantage of being able to be consumed by the sellers themselves.

To sum up this section of the paper we may note : Firstly, there is a distinct difference in the price mechanism as it operates with non-indigenous produce and with native food. The prices of non-indigenous produce are more flexible than those of native food. Secondly, with a given supply of produce on any one market day and a varying demand, sellers never increase their prices after they arrive at the market, but they reduce them in answer to a lack of demand. However, some sellers attempt a delayed price increase following an extensive demand for their produce. The time lag is usually as long as the interval between visits to the market by the individual sellers. Thirdly, the widespread social network among the Tolai virtually eliminates competition among sellers and their customary reluctance to display greed prevents them from offering their goods, beyond displaying them to prospective buyers. Fourthly, although short term prices are reasonably stable, particularly for native food items, prices have risen considerably over the years.

The Market and the Over-all Tolai Economy

The major source of Tolai income from agricultural produce is the sale of copra and cocoa which jointly yielded about £900,000 in 1959/60, but the sale of food crops also occupies a significant part of Tolai income and could, as I shall argue in the conclusion of this paper, play a much greater part.

The Administration and other large institutions, such as Mission Stations and plantations, usually place contracts with individual Tolai suppliers to deliver a certain quantity of sweet potatoes or taro kongkong at weekly or monthly intervals throughout the year at a price fixed in advance. The present rate varies between 1½d. and 2½d. per pound of sweet potatoes or taro kongkong. The contractor is usually the owner of a truck, who arranges with his relatives and friends from his own and neighbouring villages to sell their sweet potatoes or taro kongkong under his contract, charging them for the transport with his truck as well as a contract fee of between 2 per cent to 5 per cent of the cash realized. During 1959/60 the Administration in Rabaul bought 1,500 tons of truck crops¹² and according to my estimate, another 1,000 tons were bought under contract from Tolai suppliers. These 2,500 tons food crops yielded an income of approximately £47,000 which is considerably less than the estimated annual turnover at Rabaul market amounting to £130,000 (see table 5). Thus although large contracts constitute an important part in the sale of Tolai food crops, Rabaul market is still the major source of income from the sale of food crops.

A large number of individual sellers gather at Rabaul market, particularly on Saturday—the average number of vendors coming to the market in June on a weekday is 150 and on a Saturday 2112. Each vendor brings only a comparatively small quantity of produce to the market. The average turnover per vendor on a weekday amounts to no more than 14s. 7d. and on a Saturday to £1 5s. 10d. (see table 1).

12. Territory for New Guinea, *Report for 1959-60*, Commonwealth Govt. Printer, 1961, p. 67.

TABLE 1

RABAUL MARKET

Average and Total Produce (Brought, Sold and Unsold)

Date	No. of sample sellers	Total No. of sellers counted	Total No. of sellers (incl. 10% allowance)	Average per seller						Market Total		
				Produce Brought	Produce Sold	Unsold Produce	Transport Charge	Net Income	Produce Brought	Produce Sold	Unsold Produce	
	No.	No.	No.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£	£	£	
Weekdays												
1/6/61	24	179	196	1 0 0	12 5	7 7	3 3	9 2	196	122	74	
2/6/61	29	116	128	1 1 8	13 1	8 7	3 6	9 7	139	84	55	
5/6/61	27	91	100	1 1 7	13 0	8 7	3 2	9 10	108	65	43	
6/6/61	25	144	160	1 4 2	17 6	6 8	3 6	14 0	193	140	53	
7/6/61	32	143	158	1 3 0	16 10	6 2	3 7	13 3	182	132	50	
Saturdays :												
3/6/61	76	1,850	2,035	1 9 7	1 3 2	6 5	5 2	18 0	3,010	2,357	653	
17/6/61	70	1,990	2,190	1 19 6	1 8 6	11 0	4 7	1 3 11	4,325	3,121	1,204	
Weekday Average	27	135	150	1 2 1	14 7	7 6	3 5	11 2	164	110	54	
Saturday Average	73	1,920	2,112	1 14 6	1 5 10	8 8	4 10	1 1 0	3,667	2,739	928	

TABLE 2
RABAU MARKET
Cash and TAMBU Trade
(Percentages)

Date	Produce Brought			Produce Sold			Unsold Produce		
	Cash %	Tambu %	Total %	Cash %	Tambu %	Total %	Cash %	Tambu %	Total %
Weekdays									
1/6/61	93	7	100	95	5	100	90	10	100
2/6/61	87	13	100	85	15	100	91	9	100
5/6/61	94	6	100	96	4	100	89	11	100
6/6/61	90	10	100	85	15	100	84	16	100
7/6/61	85	15	100	88	12	100	73	27	100
Saturdays :									
3/6/61	95	5	100	97	3	100	99	1	100
17/6/61	82	18	100	82	18	100	83	17	100
Weekday Average	90	10	100	90	10	100	85	15	100
Saturday Average	88	12	100	89	11	100	91	9	100

TABLE 3
RABAU MARKET
Sold and Unsold Produce
(Percentages)

Date	Cash Produce			Produce sold for Tambu		
	Sold %	Unsold %	Total %	Sold %	Unsold %	Total %
Weekdays :						
1/6/61	65	35	100	45	55	100
2/6/61	60	40	100	72	28	100
5/6/61	60	40	100	33	67	100
6/6/61	74	26	100	52	48	100
7/6/61	76	24	100	55	45	100
Saturdays :						
3/6/61	77	23	100	96	4	100
17/6/61	72	28	100	74	26	100
Weekday Average :	67	33	100	51	49	100
Saturday Average :	74	26	100	85	15	100

During the week 33 per cent of all vendors sell produce worth less than 10s. per day and only 2 per cent sell more than £2 worth of produce, while on Saturdays 16 per cent sell produce for less than 10s. each and 19 per cent sell more than £2. However both for weekdays and Saturdays the modal turnover per seller lies in the range between 10s. and £1 (see table 6). The arrangements at Rabaul market, where a large number of vendors, each selling a small quantity of goods, and a large number of buyers each purchasing only a small amount of produce, should provide conditions of perfect competition, but this is not the case in fact.

On weekdays vendors normally come only from villages situated in the vicinity of Rabaul ; in fact a number of them simply walk to the market. This is reflected in the lower average transport charge per weekday vendor, namely 3s. 5d., as compared with 4s. 10d. on Saturdays, when vendors come from further afield (see table 1). On Saturdays transport charges per vendor range from one shilling to twelve shillings, whereas on weekdays the range lies between one and six shillings. The total outlay by vendors on transport charges on a Saturday amounts to as much as £500 of which about £400 is pocketed by Tolai vehicle owners. Thus the market does not merely enable Tolai to derive an income from the sale of produce but it provides further impetus to the Tolai economy by creating a demand for transport. The total Tolai income from transport charges is of course considerably higher than £400 on a Saturday, since a great number of men also travel to Rabaul and pay their fares.

On the basis of my June survey I have attempted to calculate the annual turnover at Rabaul market. Since there are considerable variations in the supply of produce between the flush months from June to September and the slack months from December to March, with October, November, April and May providing an interim period, I have made the very conservative estimate, that turnover during the interim months amounts to only 80 per cent and during the slack months to only two thirds of the peak trade I recorded in June.

This is a minimum estimate because first of all during the slacker months higher prices compensate at least to a certain extent for smaller supplies, and, secondly, the seasonal variation is mostly noticeable with non-indigenous produce. Thus a 20 per cent reduction in turnover during the interim months means in fact a 60 per cent reduction in purchases by the non-indigenous population while a third reduction during the slack months amounts to a 75 per cent reduction in non-indigenous trade at the market. Rabaul has at present a non-indigenous population of about 5,000. Therefore during the peak months the weekly consumption of market produce per head of non-indigenous population in Rabaul amounts to 5s. 10d. from which about 1s. must be deducted to make allowance for the purchases made by Europeans on behalf of natives, as, for instance, the European buyer for the Nonga native hospital. This compares with a weekly per caput consumption by non-indigenes of 2s. 6d. during interim months and of 6d. during the slack months. If we bear in mind that during the slack months prices are much higher than during the peak months and thus the quantity sixpence will buy in January is much smaller than what it will buy in July, we shall appreciate that my estimate of annual turnover is a minimum rather than a maximum.

I also estimate that 60 per cent of the total turnover, namely £78,000 is intra-Tolai trade. This is based in the first place, on the percentage of total purchases in June made by Tolai themselves at the market, namely 42 per cent. Secondly, I made an allowance for the reduced propor-

TABLE 4
RABAU MARKET
*Purchases By Different Categories of Buyers**
(Percentages)

Date	Euro- pean	Chinese	Tolai		Papuan	New Guinea	Total
			Vendors	Other			
Weekdays :	%	%	%	%	%	%	%
1/6/61	15	38	4	29	8	6	100
2/6/61	20	20	15	28	2	15	100
5/6/61	12	32	7	22	2	25	100
6/6/61	12	41	13	19	2	13	100
7/6/61	15	33	12	24	4	12	100
Saturdays :							
3/6/61	23	24	8	28	4	13	100
17/6/61	14	28	11	36	2	9	100
Weekday Average	15	33	10	24	4	14	100
Saturday Average	18	26	10	32	3	11	100

*This Table is only an estimate and awaits confirmation by Dr. Salisbury's findings.

TABLE 5
RABAU MARKET
Average Value of Produce and Net Income

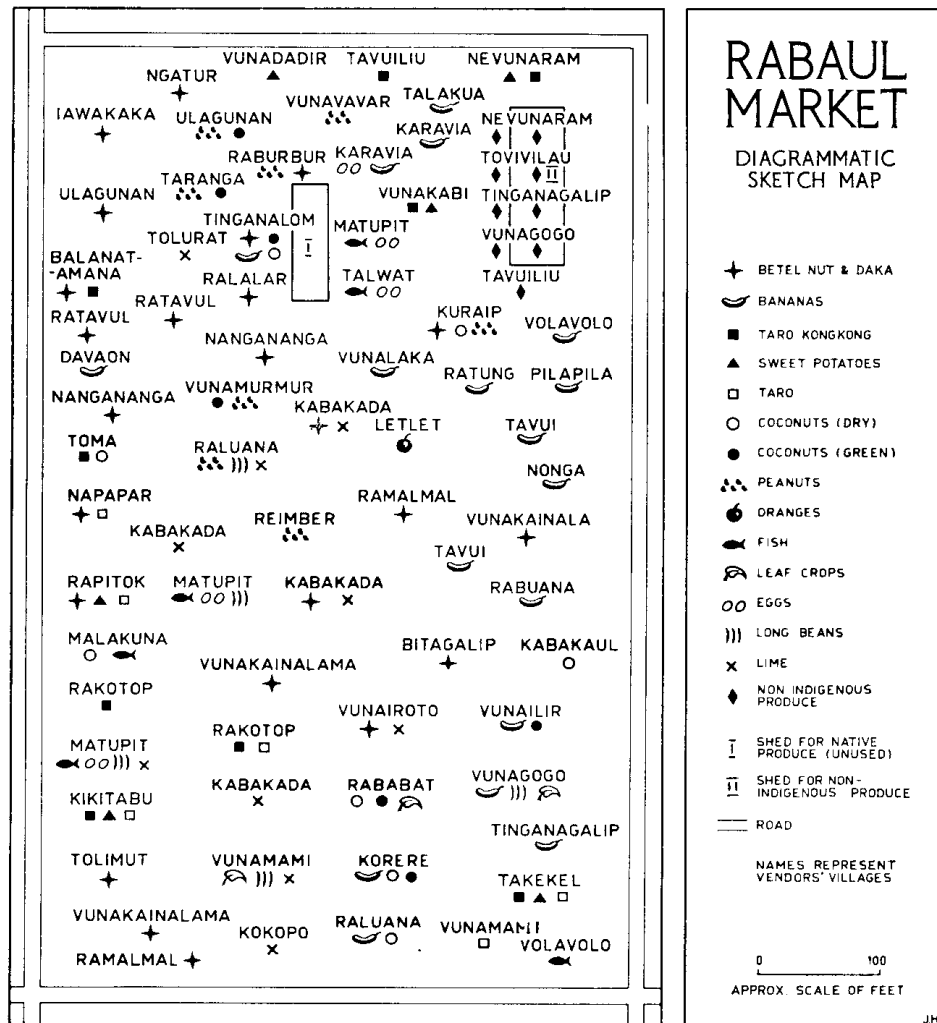
Period	Average Value of Goods Sold	Average Net Income
	£	£
Per Weekday (1)	110	90
Per Saturday (1)	2,739	2,200
Per Week (1)	3,290	2,650
Per Month (1)	13,160	10,600
Per 4 Months Peak Trade (1)	52,640	42,400
Per 4 Months Interim Trade (2)	42,110	33,900
Per 4 Months Slack Trade (3)	35,110	28,300
Per Year	130,000	105,000
Annual Intra-Tolai Trade (4)	78,000	—

(1) Figures based on June survey.

(2) I estimate that interim trade during the months April, May, October and November, amounts to 80% of peak trade (June-September).

(3) I estimate that slack trade during the months December to March amounts to 66½% of peak trade.

(4) I estimate that throughout the whole year 60% of total trade conducted at Rabaul Market is intra-Tolai.



tion of non-indigenous purchases during interim and slack months. According to my survey in June, Europeans buy 18 per cent, Chinese 26 per cent, Tolai 42 per cent, Papuans 3 per cent and New Guineans 11 per cent of the total turnover on a Saturday. Thus during peak months non-indigenous consumption of market produce amounts to slightly less and native consumption to slightly more than half of the total turnover (see table 4).

Though most of the produce is sold for cash, only 11 per cent being sold for *tambu* (see table 2), the *tambu* purchases account for a considerable proportion of total Tolai purchases. About a quarter of all intra-Tolai trade at Rabaul market is conducted with *tambu*. On a Saturday a number of women bring items, such as cooked fish, lime, or peanuts, which they want to sell only for *tambu*. They carefully collect the small strips of twelve or twenty shells, which they get in payment for one bunch of peanuts or one packet of lime and take them back to their home vil-

TABLE 6
RABAUL MARKET
Distribution of Produce Sold per Vendor in Sample Sellers

£	Weekdays												Saturdays				Average			
	1/6/61		2/6/61		5/6/61		6/6/61		7/6/61		3/6/61		17/6/61		Weekday		Saturday			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
0.00-0.49	8	34	9	31	10	37	8	32	10	32	15	20	8	12	8	33	12	16		
0.50-0.99	11	46	13	45	11	41	7	28	11	36	21	29	21	30	11	39	21	30		
1.00-1.49	4	16	2	7	5	19	7	28	7	22	15	20	15	21	5	19	15	21		
1.50-1.99	—	—	4	14	1	3	2	8	3	10	12	15	9	13	2	7	10	14		
2.00-2.49	1	4	1	3	—	—	1	4	—	—	9	11	8	12	1	2	9	11		
2.50-2.99	—	—	—	—	—	—	—	—	—	—	3	4	4	5	—	—	3	4		
3.00 & over	—	—	—	—	—	—	—	—	—	—	1	1	5	7	—	—	3	4		
Total	24	100	29	100	27	100	25	100	32	100	76	100	70	100	27	100	73	100		

lages where they join all the small pieces and measure the *tambu* in lengths of fathoms. Many a vendor thus accumulates sufficient *tambu* to contribute to the bride price that will have to be paid on behalf of her son.

A considerable proportion of goods brought to the market remains unsold. While a large part of the non-indigenous produce such as lettuce, tomatoes and cabbages is hawked by vendors round the town after they have been unsuccessful at the market, native food items are taken back to the village and consumed there. Each day at about 4 p.m. or 5 p.m. when the market breaks up one can see large baskets full of betel nut, taro kongkong, sweet potatoes and other native foods being put on the trucks which come to take women vendors back to their villages. On a weekday in June 33 per cent of all the produce brought to the market with a view to being sold for cash and 49 per cent of goods intended to be sold for *tambu* remained unsold, while on a Saturday the respective percentages were 26 per cent and 15 per cent (see table 3). Of the unsold produce only 17 per cent is of the non-indigenous type, a large part of which was in fact sold by vendors hawking it round the stores and private homes in Rabaul, while as much as 31 per cent is betel nut and daka and 18 per cent root crops (see table 7). This clearly shows two things. Firstly, that the Tolai could easily sell more non-indigenous type produce, provided the market was made more attractive and hygienic, and, secondly, that there is a surplus of native food items for which some outlet ought to be found.

Conclusions

The theoretical part of this paper dealing with the price-forming process at Rabaul market throws up a few hypotheses. Firstly, even if all the conditions for perfect competition are satisfied at a market, cultural factors may lead to imperfections in the market. Secondly, prices of goods for which the vendor herself has no use are more flexible than those of produce which can be utilized by the seller. Thirdly, vendors base their prices on the level of supply and assume a constant demand. Fourthly, with a fixed supply of goods at any one market day produce prices may be decreased if vendors fear a slack demand but they will never be increased.

The part dealing with the market's place in the over-all Tolai economy leads to a number of practical suggestions. Firstly, the market ought to be improved to make it more orderly and attractive to buyers. Secondly, sellers ought to be encouraged to sell their produce by weight and charge in units of pennies rather than sell one shilling lots. For instance a few large scales could be placed at the market and hand-scales sold cheaply to vendors. Thirdly, extension officers ought to help and advise Tolai growers in the planting of non-indigenous produce, particularly tomatoes. Fourthly, the Administration should purchase more native food items such as taro, taro kongkong and sweet potatoes and issue them to their native employees instead of rice as part of their rations. Also it might be an idea to substitute some of the tobacco issue by betel nuts and daka. This would not only provide a boost to the native Tolai economy but also result in a reduction of imports of rice and tobacco which would be beneficial to the whole Territorial economy.

TABLE 7
RABAUL MARKET
Unsold Produce (Percentages)

[illegible]