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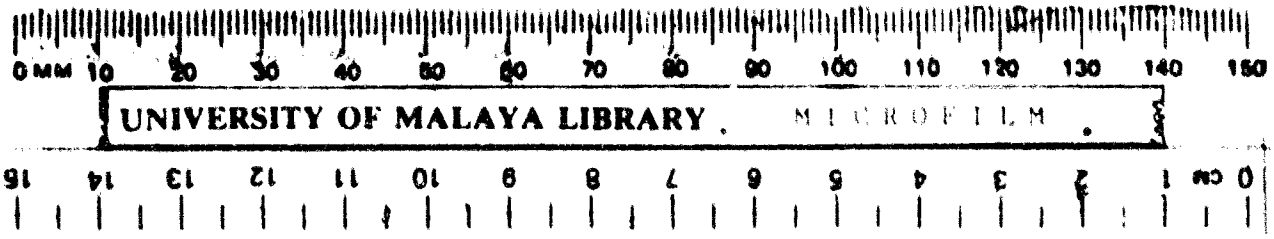

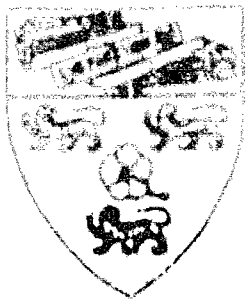

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TANJONG KARANG SURVEY - PHASE III

A SURVEY OF LAND OWNERSHIP AND OPERATION AND OTHER MATTERS IN BLOCK O

by

Inderjit Singh

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A Graduation Exercise presented to the University of Malaya in part fulfilment towards the Degree of Bachelor of Arts with Honours in Economics

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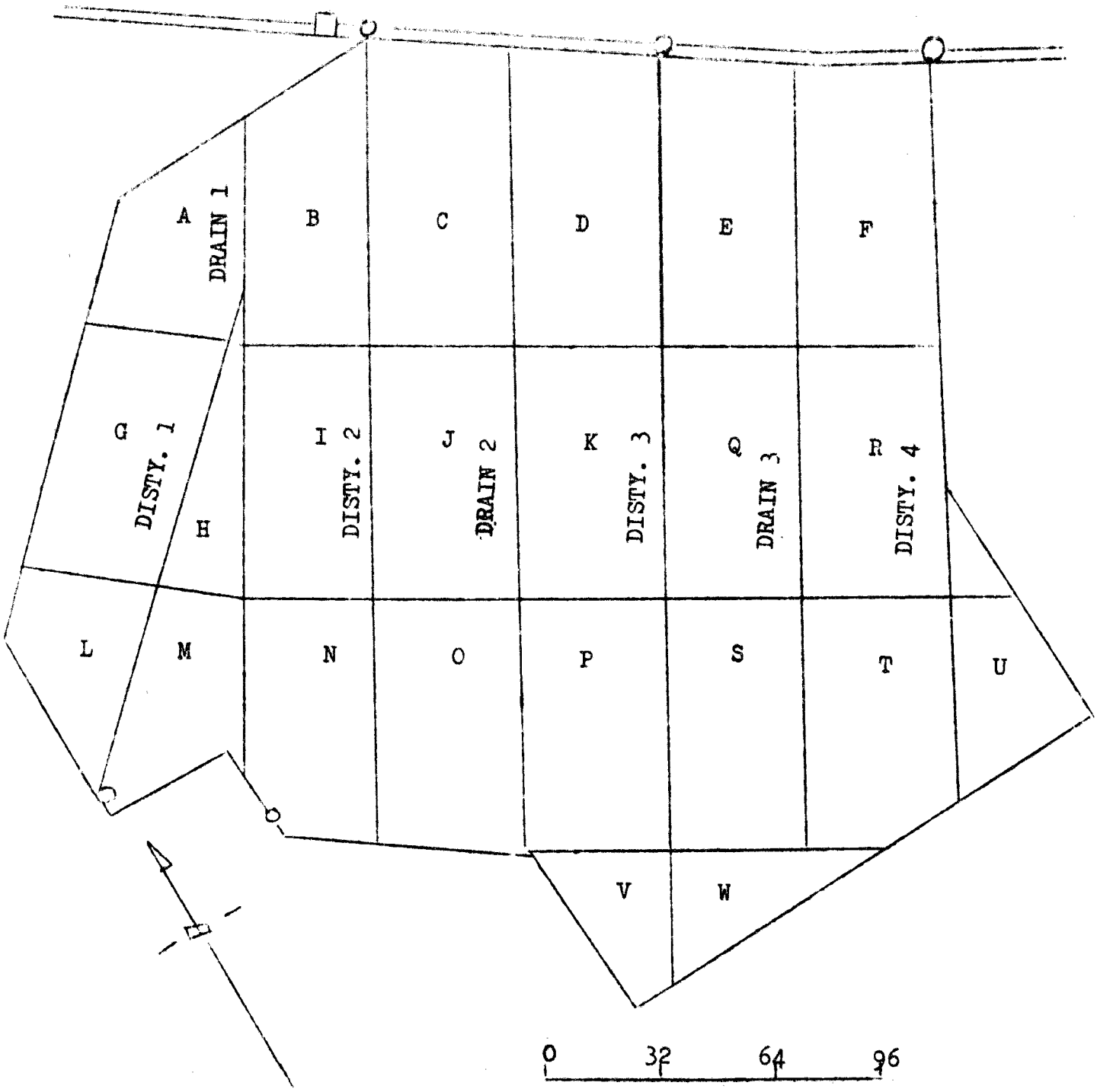
DEPARTMENT OF ECONOMICS

JULY, 1964.

SAWAH SEMPADAN

(6,100 ACRES)



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CHAPTER 1

INTRODUCTION

This is the third phase of a survey that is being conducted in Tanjong Karang by the Department of Economics, University of Malaya. The project will be carried on for another two years, before it is concluded. The present survey was confined only to Sawah Sempadan.[1] This was due to the limited number of students doing the course - only fifteen in number. In the previous years the survey also included the Sekinchang district; this was because of the availability of more students.

Sawah Sempadan comprises of 6,100 acres of sawah land that have been drained or irrigated and reclaimed from what was once swamp land and made fit for the cultivation of crops - mainly padi. Sawah Sempadan is part of the Tanjong Karang Irrigation scheme that lies on the west coast of Selangor between the River Bernam and Selangor Rivers. This scheme covers approximately 500 square miles. Work first began on this scheme in 1924 when "a committee was formed to prepare a programme of work for the exploitation of this region. It took three years to complete the exhaustive work of surveying the area and gathering all the relative data concerning soil and hydraulic conditions."[2] It was only in 1940 that work was started, but it was abandoned because of the Japanese Occupation of Malaya. In 1946 the project was continued again and what we see today is the result of the work done in the following years.

Objective

It is the study of ownership and operation of land, supplemented by a study of the socio-economic conditions of the place. The following headings which have been devoted a chapter each, form the gist of the survey:-

1. Distribution of Holdings and Farms by lots and sub-lots.

2. Distribution of Holdings and Farms by area.

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[1] Hence referred to as S.S.

[2] Padi cultivation in Malaya - Elena M Cooke, pg.31

3. Fragmentation of Holdings and Farms

4. Co-ownership

5. Co-operation

6. Analysis of Location of lots and sub-lots.

7. Padi Output and Productivity.

8. Pest and Disease

9. Views regarding Water-supply

10. Other Crops

11. General Observations

Methodology

There are 23 Blocks in Sawah Sempadan and these have been labelled in alphabetical order from A to W. However, since there were only fifteen students available to conduct the survey only 15 Blocks were surveyed. These Blocks are B, C, D, E, F, I, J, K, Q, R, N, O, P, A and T. Each Block is divided into lots of mostly three acres each. Each student was allocated one Block to work on. The unit of study was the lot. The method used was the questionnaire which has been attached at the back of this exercise (Appendix). The initial work of filling the questionnaire was done in the field itself. One visit was made to Kuala Selangor Land Office. The purpose was to check the names of owners and verify this with those that had been or would be collected in the process of the survey. The processing part of work was done by the students after their return from Tanjong Karang to Kuala Lumpur. The entire survey took three weeks, beginning on the 28th April, 1964 and terminating on 17th May, 1964.

Terminology

Most of the terms used in the exercise have been defined before any discussion was done. Initially there was some problem as to whether the term 'piece' or 'lot or sub-lot' should be used. It was later decided that for the sake of standardisation the term 'lot' instead of 'piece' should be used.

A lot and a piece mean one and the same thing. "A piece of land is one unbroken or undivided area that is defined or described in a document of ownership or title. Land Office records describe a piece of land as a lot."[3] Thus, any specific part of

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[3]Subdivision of Estates, Vol. 1, 1951-1960, pg. 11

a lot, if it had been sold, purchased or subdivided and had an owner is referred to as a sub-lot. The lots inside the Block are spoken of in terms of lots and sub-lots. But all lots outside the Block are lots. No mention of sub-lot is made here.

The other important terms used in the exercise are Holding, Farm, joint-ownership, co-ownership, joint-operation and co-operation. All these terms have been defined in the chapters in which they are first discussed. Of the other terms like owner, operator, holder, farmer, tenant-operator, giftee-operator etc. which have been used, it is assumed that the reader is already familiar with.

Block 0

This exercise is confined only to Block 0. This being the Block allocated to me. There are 89 lots in this Block. Only four are four acres in size and one is one acre in size; the rest are all three acres in size. The total area of the Block is 269 acres. Of these 89 lots, 16 lots comprising 50 acres were not surveyed because of the time-factor. Thus only a total of 219 acres were surveyed, that is 73 lots.

Henceforth, whenever we talk of the area or the number of lots in the Block, the figures 219 acres and 73 lots will be used. No more mention will be made of the 16 lots that were not surveyed.

The discussion of lots and sub-lots, holdings and farms is divided into two parts.

1. Inside the Block.

2. Outside the Block.

While it is evident that by inside the Block we mean all the lots and sub-lots there, by outside the Block we mean:-

1. lots and sub-lots outside Block but in Sawah Sempadan and,

2. lots outside Sawah Sempadan.

It is only in Chapter Seven that the distinction of lots outside the Block, but in Sawah Sempadan is made. For the rest of the exercise these two are discussed under the heading 'lots outside the Block.'

Very little mention is made as to whether the ownership titles are on the TOL[4], EMR[5], or AA[6]. This is because when the

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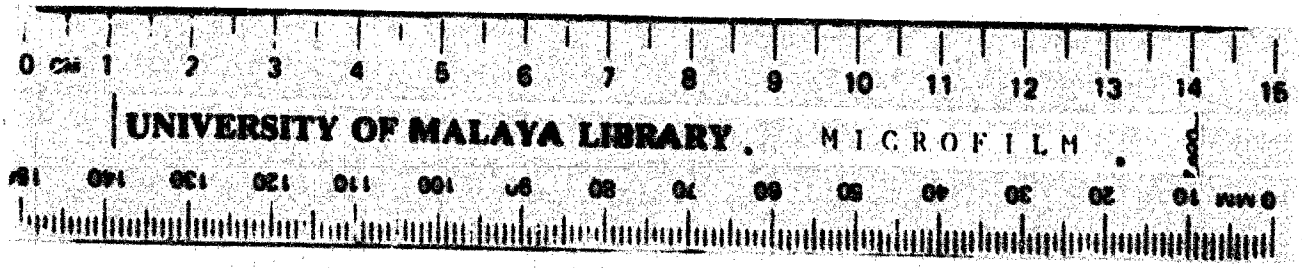
[4]Temporary Occupation Licence.

[5]Entry into Mukim Register.

[6]Approved Application

Land Office Records were checked it was found that none of the owner had been issued with TOL or HSR. They had all been issued only AA titles.



CHAPTER II

DISTRIBUTION OF HOLDINGS AND FARMS BY LOTS AND SUB-LOTS

Holdings and Farms are the two most commonly used terms in relation to agricultural production and least "the terminology be not exact, if it fit not the thing"[1] let us first define the two concepts.

Definition of a Holding

'A holding comprises all the land owned by a person. It is a unit of ownership. All the pieces a person owns make up his holding. These pieces may be contiguous or scattered all over the country. These pieces may or may not be cultivated by the owner. The holding may be of any size.'[2]

Definition of a Farm

'A farm is a unit of production based on land. A farm may consist of one piece or many pieces of land. The pieces may be contiguous or scattered. The farm may be of any size. The important characteristic is that the farm is an active unit of production that is a unit of operation.'[3]

If X operates on his own piece of land Y, then this piece of land is both his holding and farm. He is both owner as well as farmer. This is the ideal situation. However, X need not cultivate his land himself. He may be a land lord. Thus, if he rents out his land to another farmer P, then he is only a Holder. He is not a farmer because he does not cultivate the piece. Farmer P is not a Holder because he does not own Y. He does not have a holding. But Y is his farm.

Therefore, a holding and a farm need not always belong to one person. One of the major causes of rural poverty arises from the fact that farmers are not both holders and operators of the farms.

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[1] Third Section of Book XIII of the Analects.

[2] Subdivision of Estates, Volume 1, 1951-1960, pg. 11

[3] Subdivision of Estates, Volume 1, 1951-1960, pg. 11

A large number of them are only farmers by virtue of the fact that they cultivate the piece of land which they have rented; the ownership of that piece of land belonging to somebody else. A holder may rent out his holding to two or more farmers - thus creating two or more farms. Thus the number of holdings and farms need not be the same in any particular area at any one time.

In North Malaya, only 271,359 acres out of a total of 568,491 acres were owner-farmed. That is holdings and farms belonging to one person. This is 47.8% of the padi-lands surveyed. The rest were under different forms of land tenure. The various forms of land tenure can be seen in T.B. Wilsons Report4.

Map One and Map Two show the location and distribution of holdings and farms respectively in the Block. There are a total of 84 holdings and 85 farms. The Maps do not give a complete coverage of all the lots the owners own, and the operators operate. This because in the case of 36 holders they own other lots outside the Block. The tenant-operators too, operate other lots outside the Block, but not complete figures for the latter are available as no question in the questionnaire was directed at obtaining this information. The little information that we have is only obtained in an indirect way.

In cases where owners operate their own lots we have complete coverage of all the pieces that he operate. Thus, we have the exact size of his farm.

For tenant-operators, and others, the information regarding their farm is only in relation to the lots or sub-lots in the Block.

Thus, in short it can be said that:-

1. We have complete coverage of all the lots and sub-lots that a owner-operator has inside and outside the Block.

2. We do not have complete coverage of all the lots and sub-lots that a farmer operates outside the Block.

We have complete coverage of all farm pieces that an operator has inside the Block.

Thus, because of this inadequacy, I shall give a complete picture of all lots and sub-lots inside and outside the Block that comprise the holdings. The picture for the farms will only be

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4 The Economics of Padi Production in North Malaya Part 1, Table 3, pg. 11.

partial. The information of farm and holdings is vital for our discussion of Fragmentation of Farms and Holdings, which will be discussed in Chapter Three.

Distribution of Holdings by Lots and Sub-lots[5] in the Block

It would very much simplify our analysis if we could distinguish the two aspects of the situation.

1. Dejure situation
2. Defacto situation

Dejure is, as the situation is seen to be when Land Office records are checked and defacto is as the situation is on the Land.

Table 2.1 gives us the dejure and defacto situtations. The change in the holdings is self-evident. They have increased from 72 to 84 in number. An increase of 12 holdings that is an increase of 16.67 per cent. While, there are no sub-lots in Table 2.1(a), there are 27 of them in Table 2.1(b). Further there is a 100% increase in the two lot holdings.

But, we still have only a partial picture because parts of several holdings inside the Block are to be found outside the Block.

TABLE 2.1(a)

DEJURE HOLDINGS INSIDE THE BLOCK

Lots	Holdings
1 lot	71
2 lots	1
Sub-lots	-
Total	72

TABLE 2.1(b)

DEFACTO HOLDINGS INSIDE THE BLOCK

Lots	Holdings
1 lot	54
2 lots	2
Sub-lot	-
1 sub-lot	26
2 sub-lots	1
1 lot & 1 sub-lot	1
Total	84

[5]Lots and sub-lots have already been defined in the Introduction

Distribution of Holdings by Lots outside the Block

Table A gives a list of the holdings outside the Block. There are a total of 45 lots outside the Block which belong to 36 holders who have also lots in the Block. Whilst most of these 36 holders have at least one lot outside the Block, nine holders have two lots each outside the Block.

Thus, 48 holders have either one lot or one sub-lot in the Block. These do not have any other land besides this. Theirs are only one lot or one sub-lot holdings.

General Picture of Holdings inside and outside the Block

From Table 2.2 we see that there are a total of 133 lots and sub-lots inside and outside the Block. There are no sub-lots outside the Block[6]. Of the 104 lots, 59 lots (56.76%) are found in the Block. The other 45 lots (43.24%) are outside the Block. The sub-lots comprise only 21.05% of the total lots and sub-lots inside and outside the Block. The rest being all lots.

Now let us see how these lots and sub-lots were distributed among the Holders/Holdings.

TABLE 2.2

GENERAL PICTURE OF LOTS AND SUB-LOTS INSIDE AND OUTSIDE BLOCK

	Inside the Block	Outside the Block	Total
Lots	59	45	104
Sub-lots	29	-	29
	-	-	133

From Table 2.3, it can be noted that by far the largest number of holdings comprise of only one lot each. These holdings make up 36.91% of the total holdings and are all found inside the Block itself.

The next important group which is of particular interest

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[6]The assumption made in the Introduction is that all pieces of lands outside the Block are lots.

to us is the one sub-lot group. There are 16 sub-lots and all these are also to be found inside the Block. They make up 19.05% of the total holdings.

Whilst the first group denotes that holdings are static in size, the second group point to the fact, that they have diminished in size, denoting an increase in the number of holders.

These two groups between them make up 55.96% of the total holdings that is well over half the total holdings surveyed. It is not for us to discuss the economic implications of the diminishing size of holdings. This aspect will be discussed in Chapter 4, once we have dealt with the size or area of holdings in Chapter 3.

TABLE 2.3

OWNERSHIP OF LOTS AND SUB-LOTS INSIDE AND OUTSIDE BLOCK

Lots	Holders/ Holdings	Percentage	
		Absolute	Cumulative
<u>Lots</u>			
1	31	36.91	36.91
2	18	21.44	58.35
3	5	5.71	64.06
4	2	2.38	66.44
<u>Sub-lots</u>			
1	16	19.05	85.49
2	1	1.19	86.68
<u>Lots & Sub-lots</u>			
1 lot & 1 sub-lot	9	10.71	97.39
2 lots & 2 sub-lots	2	2.38	99.77
Total	84	-	-

Distribution of Farms by Lots and Sub-lots Inside the Block

While the dejure situation of farms is identical to that of holdings (Table 2.1a), the same cannot be said of defacto farms. Map Two gives the location of farms in the Block. A summarised form of Map Two can be seen in Table 2.4.

TABLE 2.4

DEFACTO FARMS INSIDE THE BLOCK

Lot	Farms	Percentage
1	52	61.6
2	2	2.3
Sub-lots		
1	29	34.0
Lot & Sub-lot		
1 lot & 1 sub-lot	2	2.35
Total	85	100.2

There is an increase in the number of farms from 72 to 85 that is an increase of 13 farms or 18.05%. Such a situation could not have come about without any forces being at work.

The one-lot farms comprise 61.7% of the total 85 farms. Next come the one sub-lot farm. These make the second largest group - 34.1%. However, as yet we cannot say much about these farms because we have not seen the parts of the farms that lie outside the Block.

Distribution of Farms by Lots Outside the Block

As said at the beginning the data collected for farms outside the Block is not completed. It is only partial.[7]

Table B gives a list of the farms found outside the Block. There are a total of 30 such farm lots and these belong to 24 farmers who have also farms inside the Block. Like in the

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[7]Refer beginning of Chapter Two.

case of holdings while most of lots outside the Block have one lot each, six farms have two lots each. Thus, 61 farms out of the 85 do not have lots outside the Block that is 71.8% of the farmers have farms only in the Block.

General Picture of Farms Inside and Outside the Block

Now that we have dealt with farms inside and outside the Block separately, let us look at them together.

Out of the 85 farms only 24 farms have lots outside the Block. Eighteen of the latter comprise of one piece each.

Fifty-seven of these farms are made of one sub-lot (inside Block) and one lot (outside Block) each. Thirteen farms are made of two lots each, one lot being inside and the other outside the Block. The remaining eigth farms with the exception of one, have three pieces each.

Three farms have one sub-lot (inside Block) and two lots (outside Block) each.

Three farms have one lot (inside Block) and 2 lots (outside the Block) each.

There is only one farm which is made of four lots, two lots being in the Block and the other two outside the Block.

This then is the picture of the 24 farms that have lots outside the Block.

What about the 61 farms in the Block with no lots outside?

These are tabulated in Table 2.5. The farms that are of interest to us are mainly those that consist of one sub-lot each. There are 22 of these comprising 36.06% of the total 61 farms.

It is not our aim at this juncture to have a discourse on the economic size of a farm. It would be premature to do so. This is because we have as yet not said anything about the size of one sub-lot in terms of acres. But it would be pertinent at this stage to mention that it is either two acres or less - mostly a sub-lot being 1.5 acres in size.

TABLE 2.5

FARMS CONFINED ONLY TO THE BLOCK

Farms	No.	Percentage	
		Absolute	Cumulative
1 lot	35	37.36	57.36
2 lots	2	3.11	60.47
1 sub-lot	22	36.06	96.53
1 lot & 1 sub-lot	2	3.11	99.64
Total	61	-	-

CHAPTER III

DISTRIBUTION OF HOLDINGS AND FARMS BY AREA

In the last chapter we discussed the following:-

1) The defacto situation of holdings and farms.

2) The number of lots and sub-lots, each holding and farm was made of.

3) Where these lots and sub-lots were situated - were they inside or outside the Block,

4) What percentage of the holdings and farms have other lots outside the Block?

Our discussion of holdings and farms cannot be fruitful if we go on counting the lots and sub-lots that each is comprised of. This is because we would not know their sizes by area. A lot and a sub-lot does not give us any idea as to the size. Thus, if A's holding is made up of two lots (outside the Block) and one sub-lot (inside the Block), this only tells us that he has three pieces of land and where these pieces are. We do not know, the total area of the holding, neither do we know the size of any one piece.

Thus, it is the aim of the present chapter to find the distribution of holdings and farms by area. We shall divide our discussion into four parts.

1) Size of holdings inside the Block; and size outside the Block.

2) Size of holdings inside and outside Block by interval of one acre to nine acres.

3) Size of farms inside the Block, and size outside the Block.

4) Size of farms inside and outside the Block in intervals of one acre to nine acres

Size of Holdings inside the Block

Table 3.1 gives us information regarding the size of holdings in the Block. The holdings range from a maximum of six acres to 0.75 acres.

TABLE 3.1

DISTRIBUTION BY SIZE OF HOLDINGS
INSIDE BLOCK

Size of Holdings (acres)	No. of Holdings	Total Acreage
6.0	2	12.0
4.5	1	4.5
4.0	1	4.0
3.0	53	159.0
2.0	2	4.0
1.5	22	33.0
1.0	1	1.0
0.75	2	1.5
Total	84	219.0

By far the largest group of holdings are three acres in size. There are 53 of them and comprise 72.73% of the total area cultivated that is 159 out of 219 acres.

The second largest group comprises of sub-lots of 1.5 acres each. They constitute 26.19% of total holdings, taking up an area of 33 acres out of a total of 219 that is (15.47%).

The total area under sub-lots will not be very much increased if we add on to the 1.5 acre sub-lots, sub-lots of two acres and 0.75 acres. It only increases area occupied by sub-lots to 38.5 acres.

A break-up of total acreage cultivated inside the Block, into areas occupied by lots and sub-lots show that:-

179 acres are occupied by lots that is 81.73%,

44 acres are occupied by sub-lots that is 18.27%.

Our interest is confined to the sub-lots; we want to know why and how such sub-lots came into being. (Chapter Five attempts to give reasons as to how co-ownership and joint-ownership of lots arose).

The various sizes which these sub-lots have assumed is something worth pondering on. It is worthwhile asking the question to oneself at this stage, what would become of these sub-lots, if subdivision went a few steps further in one generation or two? Would not re-distribution or consolidation of holdings have to be re-done all over again?

Size of Holding Lots Outside the Block

Table 3.2 gives us information pertaining to this. The lots range from a maximum of eight acres to a minimum of one acre. There are 45 lots outside the Block, and occupy a total of 132.5 acres. These 45 lots are owned by 36 Holders who also have either lots or sub-lots inside the Block. It is noteworthy that there are only 12 one-acre lots (ten are given in Table 3.2)[1]. They belong to twelve holders. These are the Kampong Lots that have been given to each owner of a lot in the Block.[2] Only 16.4% of dejure owners have as yet been issued Kampong Lots.

TABLE 3.2

SIZE OF HOLDING LOTS OUTSIDE THE BLOCK

Size of Lots	Frequency	Total Acreage
8.0	1	8.0
7.5	1	7.5
5.0	12	60.0
4.0	1	4.0
3.0	6	18.0
2.5	3	7.5
2.0	5	10.0
1.5	5	7.5
1.0	10	10.0
Total	45	132.5

[1] Two one-acre lots have been included as one two-acre lot in number 7 of Table 3.2

[2] 61 dejure owners of lots in the Block have as yet not received their Kampong Lots.

Size of Holdings Outside the Block

Table 3.3 gives the sizes of holdings found outside the Block. These 36 holdings are part of 36 of the 84 holdings that are in the Block. The rest of the 48 holdings in the Block do not have any other lots outside the Block.

It is not difficult to say which is the most common size of a holing outside the Block from the Table. The five acres are the most common. Nine out of 36 holdings that is 25% of the holdings are five acres in size. Very large holdings ranging between the sizes of ten acres to six or seven acres are not common. There is only one holding to each of these large sizes. This also can be seen in the Table.

Now, let us put these holdings outside the Block, together with those that are inside the Block. This will give us a complete picture of the holdings. We already know the individual sizes of holdings inside and outside the Block separately.

TABLE 3.3

SIZE OF HOLDINGS OUTSIDE BLOCK

Holding Sizes (acres)	Frequency	Total Area
9.5	1	9.5
8.0	1	8.0
7.5	1	7.5
7.0	1	7.0
6.0	2	12.0
5.0	9	45.0
4.0	2	8.0
3.0	3	9.0
2.5	4	10.0
2.0	3	6.0
1.5	3	4.5
1.0	6	6.0
Total	36	132.5

TABLE 3.4

HOLDINGS INSIDE AND OUTSIDE BLOCK

Acres	Holdings		
	Inside Block	Outside Block	Inside & Outside Block
less than 0.99	2	-	2
1 - 1.99	23	9	14
2 - 2.99	2	7	3
3 - 3.99	53	3	29
4 - 4.99	2	2	13
5 - 5.99	-	9	4
6 - 6.99	2	2	3
7 - 7.99	-	1	2
8 - 8.99	-	2	8
9 & over	-	1	6
Total	84	36	84

In Table 3.4, column three we can see the number of holdings that lie between the various class internals. The average size of a holding (taking it as it is defined) is 4.2 acres.

The average size of holding inside the Block only is 2.6 acres. The average size of the 36 holdings that are outside the Block is 6.41 acres. Thus, it can be seen that there are three different averages for the holdings. Only the one that suits us should be taken for comparision. For our purpose since it is the general overall average of holdings that we need so the 4.2 acres average is pertinent.

How does this average compare with the averages of other countries, and other parts of our country?

India[3]	Average (acres)
Province of Bombay	11.7
Province of Punjabi	7.5
Province of Madras	4.5
Province of Bengal	2.4
Province of Assam	2.0
North Malaya[4]	
Kedah	4.94
Perlis	2.85
Province Wellesley	2.27
Kelantan	0.88
Krian District	4.72

The problem of this small size holding is further aggraved by the fact many of the holders have more than one piece of land as their holding. However as Rao has aptly put it 'from the view of agricultural efficiency, it is not the size of ownership holding but that of cultivation holding that matters most.'[5] Let us therefore take a look at the size of farms inside and outside the Block.

Size of Farms Inside the Block

In Table 3.5, we can see that farm range from a maximum of six acres to a minimum of 0.75 acres. By far the largest number of farms are three acres in size. They make up fifty-five of the total farms inside the Block and occupy 67.12% of the 219 acres surveyed in the Block. These are all one-lot farms.

The next largest group comprise the sub-lot farms. There are 30 farms which are made of one sub-lot each. They range

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[3]Studies in Rural Economy, by R.V.Rao pg. 17

[4]The Economics of Padi Production in North Malaya (Part 1) by T.B. Wilson pg. 79 & 91.

[5]Studies in Rural Economy by R.V.Rao pg. 19

TABLE 3.5

DISTRIBUTION BY SIZE OF FARMS INSIDE THE BLOCK

Farm Size (acres)	Frequency	Total Area
6.0	2	12.0
4.5	2	9.0
4.0	1	4.0
3.0	49	147.0
2.25	1	2.25
2.0	6	4.0
1.5	26	39.0
1.0	1	1.0
0.75	1	0.75
Total	85	219.00

from 2.25 acres to 0.75 acres in size. But the most common size of a sub-lot is 1.5 acres. There are 26 such sub-lots and occupy 39 acres or 11.9% of total cultivated area inside Block.

There is only one farm inside the Block, which consisted of one lot and one sub-lot, and only one farm that is two lots in size.

The dejure farms are 73 but the defacto figure is 85. Thus, there is a 16.43% increase in the number of farms. The dejure average of a farm is three acres but the defacto average is 2.57 acres. While the number of farms have increased the total cultivated area has not changed therefore diminishing the average size per holding in the Block.

Size of Farm Lots Outside the Block

Some of the farms inside the Block have also lots outside the Block. There are 24 such farms occupying 30 lots. Our aim is to find the size of these lot individually.

Table 3.6 gives us an idea of the various sizes of the lots that are found outside the Block. The 24 farms occupy 80.75

TABLE 3.6

SIZE OF FARM LOTS OUTSIDE THE BLOCK

Size of Lots	Frequency	Total Acreage
5	6	30.0
4	1	4.0
3	6	18.0
2.5	4	10.0
2.0	5	10.0
1.5	1	1.5
1.25	1	1.25
1.0	6	6.00
Total	30	80.75

acres - an average of 2.66 acres to a farm. There is no clear size pattern as to the most common farm lot. The more common ones are the five acre farm lots, three acre farm lots, two acres farm lots and one acre farm lots. They take 64 acres of the 80.75 acres found outside the Block.

While there are twelve one-acre holding lots, there are only 6 one-acre farm lots. The difference arise from the fact, that not all owners operate their holding and because of the various forms of land tenancy that exist.

Size of Farms Outside the Block

Table 3.7 shows there is no common farm size. The farms are of all odd sizes ranging from one acre to nine acres in size. The nearest that we can come to a common farm size is five acres. There are five of these farms . The differences in the sizes of farms and holdings outside the Block can be seen if Table 3.3 is compared with Table 3.7 It will be noticed that the farms and holding sizes do coincide but the number of holdings and farms that belong to each size of holding or farm differs. This is because the number of farms surveyed was only partial.

Farms Inside and Outside the Block

As pointed out earlier there are 85 farms in the Block,

TABLE 3.7

SIZE OF FARMS OUTSIDE BLOCK

Farm Size (acres)	Frequency	Total Area
8.0	1	8
7.0	1	7
6.0	1	6
5.0	5	2.5
4.0	1	4
3.5	1	3.5
3.0	3	9.
2.5	3	7.5
2.0	2	4.0
1.5	1	1.5
1.25	1	1.25
1.0	4	4.0
Total	24	80.75

24 of these farms have besides the lots or sub-lots in the Block, other lots outside the Block. Table 3.8 gives farms as stated in the definition.

29.41% or 25 farms are less than three acres in size, but of these 22.35% or 19 farms are between 1½2 acres in size. It is questionable as to whether these farms are of economic or uneconomic size. The problem could be further aggravated if the farms were not in one single lot but were in two or more lots or sub-lots. (This problem will be discussed in Chapter Four).

The largest group of farms are between three to four acres in area. They comprise 43.53% or 37 of the total 85 farms. The next common group is between the 1½2 acre class interval. They make up 22.35% or 19 of the total farms. These are two groups

TABLE 3.8

FARMS INSIDE AND OUTSIDE BLOCK

Acres	Farms		
	Inside Block	Outside Block	Inside & Outside Block
Less than 0.99	1	-	1
1 to 1.99	26	6	19
2 to 2.99	4	5	5
3 to 3.99	49	4	37
4 to 4.99	3	1	10
5 to 5.99	-	5	1
6 to 6.99	2	1	5
7 to 7.99	-	1	1
8 to 8.99	-	1	4
9 & over	-	-	2
Total	85	24	85

between them contain 65.88 % of the total farms.

Thus, it can be seen that by far most of the farms are less than four acres in size. They comprise 72.76% of all farms. The rest of the farms are more than four acres in size. Only two farms are above nine acres. The smallest farm is less than one acre. It is a 0.75 acre farm.

The average size of a farm (taken as it is defined) is 3.52 acres. How does this compare with average farm sizes in other parts of the country.

North Malaya[6]	Average Size of Farm
Perlis	0.61 acres
Kedah	0.89 "
Province Wellesley	0.76 "
Kelantan	0.22 "

When compared, the average size of farms inside and outside the Block is still greater than that found in other Malayan states.

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[6] The Economics of Padi Production in North Malaya. Part 1, by T.B. Wilson, pg. 79, Table 75.

CHAPTER IV

FRAGMENTATION OF HOLDINGS
FRAGMENTATION OF FARMS

In the last two chapters we discussed the distribution of holdings and farms by lots and sub-lots, and by area. This information will be useful to us in our present discussion of fragmentation of holdings and farms. Before going further let us define the term fragmentation to avoid any confusion or misunderstanding as to its meaning.

'Fragmentation is a technical term that describe a condition where farms that consist of several pieces of land have the pieces so scattered that the economic efficiency of the farm is reduced . In other words, if the pieces were contiguous or at least nearer than the economic efficiency of the farm would be raised.'[1]

Two characteristics which denote whether a farm is fragmented or not are:-

1) The 'scatter'of pieces.

2) The impairment of economic efficiency.

If these two characteristics are present then we can positively say that a farm is fragmented.

Fragmentation can be looked at from points of view.

1. Fragmentation of holdings.

2. Fragmentation of farms.

Fragmentation of holdings is looking at the lots and sub-lots from the owners' point of view; and fragmentation of farms is to look at them from the operators' (farmers) point of view.

Where owners also operate their own holdings, then fragmented farm and fragmented holding are the same thing looked at

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[1] Subdivision of Estates. Volume 1 1951-1960, pg.13

from different points of view.

Where a holder does not operate on his holding but rents out his holding to a few farmers who also rent pieces from other holders, then the holding and farm do not coincide because of difference in owners and operators.

From the view point of agricultural efficiency,''it is not the size of ownership of holdings but that of cultivation units that matters most,'[2] we are more concerned about sizes of lots and sub-lots that farmers operate, not so much as to the size of lots and sub-lots owned.

Fragmentation has been described as an "unmitigated evil for which no advantage can be claimed'[3]. "While the progressive diminution in the average size of holding is the direct result of subdivision fragmentation is caused not so much by the act of subdivision as by the manner in which it is affected."[4]

The Royal Commission of Agriculture described the question of fragmentation in the following words. "Thus, if a father with three isolated fields of one acre each dies, leaving three sons, the latter will not take one field each but one-third of each field. In the result successive generations descending from a common ancestor inherit not only smaller share of his land, but inherit that land broken up into smaller and smaller plots."[5] The other factor which leads to fragmentation is sale or purchase of a land quite distant from the original holding lot or sub-lot.

If a farmer (operator) rent in, another lot or sub-lot at distance away from his present lot or sub-lot then his farm becomes fragmented. Having, thus got the concepts of fragmentation of holdings and farms, before proceeding any further let us first sort out a few problems.

If we look at Schedule III approval of application of Land (Land Rule 5) we see that every owner of a lot in the Block must have two lots:-

1) The Bendang Lot

2) The Kampong Lot

These two lots are located at entirely different places and are to

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[2]Studies in Rural Economy, by R.V.Rao pg.35

[3]Studies in Rural Economy, by R.V.Rao pg.22

[4]Studies in Rural Economy, by R.V.Rao pg.23

[5]Studies in Rural Economy by R.V.Rao pg.23

be used for the cultivation of different crops. The Bendang lot "shall be solely used for the cultivation of wet rice," and the Kampong Lot "shall be used solely as a site for one or more dwelling houses and for the cultivation of trees of economic value other than rubber trees." These two lots are to be held by a single entry in the Mukim Register. Thus theoretically every holder must have two lots, both located far apart. This has been deliberately done. Practically there are only 13 dejure lots in the Block which have been issued Kampong Lots. Is this fragmentation or not? According to our definition it is and that is how these lots will be treated henceforth.

One more point, it is very difficult to determine whether economic efficiency of farms is impaired or not, because most of the lots outside the Block are planted with crops other than padi. No yardstick is available to measure the loss in efficiency.

Further where some kampong lots are nearer to the Bendang lots than others, then we must talk in terms of the degree of fragmentation because lots or sub-lots are either close or far apart. These are all arbitrary concepts and are difficult to determine. Therefore we shall talk of fragmentation of farms and holdings without much emphasis to these latter two problems.

Fragmentation will be dealt in basically two parts:-

1) Fragmentation of holdings and farms inside the Block.

2) Fragmentation of holdings and farms inside and outside Block.

Map 1 and Map 2 show the holdings and farms respectively in the Block.

<u>Fragmentation of Holdings and Farms Inside the Block</u>

If we rigidly follow the definition given, we will notice that there is practically no fragmentation of holdings. The nearest that we can come to some sort of fragmentation is shown in Table 3.4.1 But even these it is difficult to say that they are fragmented.

H25 is the least fragmented , in fact we cannot say it is fragmented because the two lots are adjoining ones. Neither can we say that H6 is fragmented because it consists of one adjoining sub-lot and lot.

H11 (Lot 3355 and 3359) is fragmented but there is no loss in economic efficiency because lot 3355 and lot 3359 are two farms of three acres each.

Only H33 can be said to be fragmented because the two lots that it is made of are situated far apart. As a farm too, this

TABLE 4.1

FRAGMENTED HOLDING INSIDE BLOCK

	Lot No.	Average (acres)	Total Acreage
H6	3343	1.5	4.5
H6	3344	3.0	4.5
H11	3355	1.5	3.0
H11	3359	1.5	3.0
H33	3364	3.0	6.0
H33	3398	3.0	6.0
H25	3411	3.0	6.0
H25	3412	3.0	6.0

holding is fragmented - the owner and operator being one and the same person.

Fragmention of farms based on the definition have occured only in three cases.

F3 (one sub-lot and one lot) = 4.5 acres

F16 (one sub-lot and one lot) = 4.5 acres

F34 (two lots) = 6.0 acres

If we look at Map 2 we see that the degree of fragmentation is greater in F34 than in either F3 or F16.

Thus only three out of the 85 farms inside the Block are fragmented that is only 3.52%.

Thus it can be concluded that the extent of fragmentation of holdings and farms inside the Block is negligible. The number of fragmented farms being slightly greater than holdings.

Fragmentation of Holdings Inside and Outside the Block (Refer Table 2.1 a)

While there are 45 lots outside the Block, there are 57 lots and 29 sub-lots inside the Block. These lots and sub-lots, are

both inside and outside the Block, and occupy a total of 351.5 acres. These 351.5 acres are owned by 84 holders of whom only 36 have holding lots outside the Block. These thirty-six have among them 45 lots of a lot area of 132.5 acres. While twenty-six of these holders have only one lot each outside the Block, nine holders have two lots each.

The largest holding inside and outside Block is made up of three lots. This H25 covers a 13.5 acres. It comprises of two adjoining lots inside the Block and one lot outside the Block. The smallest fragmented holding was 2.5 acres in size. It is made of one sub-lot (inside the Block) and one lot (outside the Block). The sizes of each piece being 1.5 and one acre respectively.

The average size of a holding which has lots outside the Block is 6.42. This average should not be taken too far because of extreme cases, like 2.5 acre holdings given above.

The fragmented holding comprise 42.03% of the total holdings inside and outside the Block, leaving 57.97% of holdings as not fragmented.

Fragmentation of Farms Inside and Outside the Block
(Refer Table 2.1 b)

Out of the 85 farms surveyed, sixty-one farms do not have lots outside the Block. This is 71.08% of the total farms.

Of these sixty-one farms, thirty-five farms have only one lot each, 22 farms have only one sub-lot each, two have two lots each and one has one sub-lot and one lot each. (Refer Table 2.5). This then is the situation inside the Block.

Outside the Block, only twenty-four farms have lots. Here six farms have two lots each, the rest of the 18 farms have one lot each. Thus 75% of the farms outside the lots have one lot each, 25% have more than one lot each.

The largest farm inside and outside the lot is F34 consisting of two lots inside the Block and two lots outside the Block. It covers a total area of thirteen acres. F34 and H25 belong to two persons. Thus, these are the biggest fragmented holding and farm found inside and outside the Block. The average size of the 24 farms that have lots outside the Block is 6.05 acres.

When compared with average size of a fragmented holding (6.42 acres) the fragmented farm (both inside and outside the Block) which have lots in both places, there is not much difference.

We are in no position to talk at this stage of the economic size of each of the lot and sub-lots that these farms are composed of; neither can we say much about the degree offragmentation. The individual size of holding and farm lots and sub-lots, are given

in Tables ~~3.2, 3.3, 3.5 and 3.6.~~

We can only talk of the extent of fragmentation while 42.0% of all 84 holdings are fragmented only 28.2% of all the 85 farms are fragmented.

The reason why fragmentation has been described as an unmitigated evil which has no sanction of the law, is because of:-

1. It is wasteful to the farmers' time, energy and equipment.

2. "It leads to irregular expansion of over waste land by purchase and sale."[6]

3. It interferes with the cultivators attempt to improve his land.

4. The systematic organisation of labour and capital is made difficult.

5. The cultivators revenue is lessened because of the emergence of ineffeciency of production.

6. There is the possibility that it would lead to boundry disputes resulting in prolonged ligitation

7. In the long-run the fragmented lot and sub-lot become too small to be of any use for cultivation and are thus neglected.

Both subdivision and fragmentation can lead to ludicrous situations like where "only one coconut tree is left and since it cannot be divided physically the inheritors have to own this tree jointly."[7]

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[6] Studies in Rural Economy, by R.V.Rao, pg. 23

[7] Land Mistergration of Land Policy in Malayan Economic Review. Volume 111, 1st April, 1958, pg. 22 - 29.

CHAPTER V

CO-OWNERSHIP

A lot or a sub-lot can be owned by one or more than one person. If there is more than one owner than the land with a single title can be owned on either joint-ownership basis or co-ownership basis. These two terms can easily lead to much confusion and misunderstanding if their meaning are not clearly understood. Thus, it is pertinent if they are defined to make it clear as to what they mean or the situation they represent.

Definition of Joint-ownership

'It occurs where each person has an undivided share in the title.'[1]

Example: A, B, C and D put up $500, $250, $150 and $100 respectively to buy a piece of land for $1,000. A has $\frac{1}{2}$ share, B,C, and D have $\frac{1}{4}$, 1/20 and 1/10 shares respectively. But 'no part of the land will be designated the particular area belonging to any individual owner. Even A who owns $\frac{1}{2}$ of the land does not have any specific part as marked out for him. The proportion of ownership will be applied to the cost of production; and also to any profits that are made and distributed amongst the four parties.

Any member may sell part of the whole of his fraction of ownership rights but he cannot claimed any particular area as being his own.'[2]

Definition of Co-ownership

It 'occurs where specific parts of the piece are designated to the different owners. Two or more persons may buy a piece of land and although they retain a common title, the area that each person is to operate is clearly demarcated.

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[1] Subdivision of Estates, Volume 1, 1951 - 1960 pg.98

[2] Subdivision of Estates, Volume 1, 1951 - 1960 pg.98

Frequently this is a case of 'defacto' subdivision and joint ownership only exists in the eyes of land officials and land records.'[1]

No cases of joint ownership were located in the Block. This because:-

1. The holders made specific claim to the proportion of the piece that was their's in the lot.

2. There was no question of division of harvest or profits, on the basis of contribution made to the purchase of the piece, or the cost of crop production.

The harvest belonged to the owner, (if tenant-operator it was shared with owner, a giftee-operator helps himself) and he could dispose it any way he liked without consulting the co-owners of the lot.

Now let us turn our attention to co-ownership. There are two conditions that must be fulfilled before co-ownership can come into being.

1. Two or more persons may buy a lot, they retain a common title with their names on the title.

2. The area that each person is to operate is clearly demarcated.

In Sawah Sempadan while on the one hand it is possible for two or more persons to buy a lot, on the other they cannot retain a common title. This is not legally possible. Only one owner's name can appear on one title. This latter aspect fails to fulfill the conditions laid out in the first part of the definition of co-ownership. The second part of the definition of co-ownership is fulfilled in Sawah Sempadan.

Therefore we must amend our definition a little to suit the conditions that exists in Sawah Sempadan. If it was legally possible to put two or more names to a title in Sawah Sempadan then there is no reason why this would not have been done. But because of the barrier put by law there is only one owner's name on one title in Sawah Sempadan.

Thus, for our discussion we are going to assume that the two or more owners can put their names to a single title. Once we get this cleared then we can proceed and find out whether co-ownership exists inside the Block.

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[1] Subdivision of Estates, Volume 1 1951-1960, pg.98

Table 5.1 shows that out of a total of 73 lots surveyed, fourteen were co-owned. This percentage of 19.2 might not look very significant, yet it shows a very serious trend that is taking place - a trend contrary to policy and a violation of the law.

Basically it was found that co-ownership arose because of any one or more of the following reasons.

1) Sale or purchase of a sub-lot. (This could be temporary or permanent.)

2) Purchase of a lot by two or more persons, who later ~~demanded~~ divided up the lot into sub-lots.

3) Subdivision of a lot among the children of the owner.

In all there are 28 holdings created out of a total of 14 lots. Of these 28 holders, 17 holders have no other land besides their sub-lots in the Block. The size of the sub-lot ranges from a maximum of 2.00 acres to 0.75 acres. The majority of which are 1.5 acres. The above information indicate to some extent the dual need of its holders.

1) The need for land.

2) The inadequacy of means of purchase.

This gives use to small holding. A holder in need of cash may sell his lot, or a piece of it, to one or more farmers, who might individually or jointly buy it. But whatever the reason may be the lot gets divided up in the process.

A further step for the owner of one sub-lot will be to buy more land to increase the size of his holding. This he will do when he has money and there is a potential seller. The difficulty is that an adjoining piece may not be found; and lots or sub-lots located further away have to be purchased.

In Table 5.2, only two out of the 28 holders have other lots or sub-lots in the Block. They are:-

H6 (Lot 3343 and 3344) has two three-acre lots.

H11 (Lot 3355 and 3359) has one three-acre lot and one sub-lot of 1.5 acres.

However, both the holders are fortunate in the sense that the land they purchased happens to be adjoining to their former land.

The remaining ten holders have all their other lots, in other Blocks, or outside Sawah Sempadan.

Nine holders have two lots each, while one holder has one sub-lot and two lots. It would be beneficial if we knew whether, these ten holders bought their lots or sub-lots inside the Block to substantiate their lots elsewhere, or was the situation vice versa. The chances are that it was the people from outside Sawah Sempadan namely the residents of Batu Sembilan, Batu Lapan, Batu Enam, Sungai Tinggi Kanan and etc. who bought the lots and sub-lots inside the Block to substantiate their already existing lots. This deduction is drawn from the fact that places like Batu Lapan, Batu Tujoh, Sungai Tinggi Kanan and etc., were opened up very much earlier than the sawah lands of Sawah Sempadan. It is from these types of purchases and sales that fragmentation arose.

TABLE 5.1

SHOWS 'LOTS' OWNED ON CO-OWNERSHIP BASIS THE NUMBER OF OWNERS AND SIZE OF EACH HOLDING

No.	Lot No.	No. of Owners	Holding No.			Area of Each in Acres		
1	3331	2	H1	H2	-	2.0	2.0	-
2	3343	2	H5	H6	-	1.0	2.0	-
3	3347	2	H7	H8	-	1.5	1.5	-
4	3353	2	H46	H47	-	1.5	1.5	-
5	3355	2	H10	H11	-	1.5	1.5	-
6	3358	2	H72	H73	-	1.0	2.0	-
7	3359	2	H11*	H12	-	1.5	1.5	-
8	3361	3	H49	H50	H51	1.5	0.75	0.75
9	3368	2	H34	H35	-	1.5	1.5	-
10	3377	2	H54	H55	-	1.5	1.5	-
11	3393	2	H59	H60	-	1.5	1.5	-
12	3397	2	H61	H62	-	1.5	1.5	-
13	3399	2	H21	H22	-	1.5	-	-
14	3409	2	H65	H66	-	-	-	-
-	-	29*	-	-	-	-	-	-

*H11 has one owner. Therefore 28 owners.

TABLE 5.2

LOTS AND SUB-LOTS OF CO-OWNERS INSIDE AND OUTSIDE THE BLOCK

No.	Holding No.	Lot No.	Land in Block	Land Outside Block
1	H1	3331	-	-
2	H2	3331	-	-
3	H5	3343	-	Block J
4	H6	3343	3344	-
5	H7	3347	-	Block H
6	H8	3347	-	Sungai Sireh
7	H10	3355	-	-
8	H11	3355	3359	-
9	H12	3359	-	-
10	H21	3399	-	-
11	H22	3399	-	-
12	H34	3368	-	Sungai Tinggi Kanan
13	H35	3368	-	Sungai Tinggi Kanan
14	H46	3353	-	-
15	H47	3353	-	-
16	H49	3361	-	-
17	H50	3361	-	-
18	H51	3361	-	-
19	H54	3377	-	Batu Lapan
20	H55	3377	-	Batu Tujoh
21	H59	3393	-	-
22	H60	3393	-	Sungai Tinggi Kanan
23	H61	3397	-	Block H Sungai Tinggi Kanan
24	H62	3397	-	Sungai Tinggi Kanan
25	H65	3409	-	-
26	H66	3409	-	-
27	H72	3354	-	-
28	H73	3354	-	-

Co-ownership Resulting from Sale

Case 1. Lot 3399

The title of this lot is in the name of Haji Iman. He lives at Batu Tujoh with his parents. He has no other land except that which is in the Block. He sold half of his three acres to Haji Abdul Salim. The sale was done on condition that, if Haji Imam's son-in-law could repay the money then the land would be returned. Thus, sale was but temporary. It is more akin to mortgage because Haji Abdul Salim in every way is the owners until his loan is repaid.

The two owners equally divide the land rent and water-rate between themselves.

Case 2. Lot 3343

Title is registered in Haji Abdul Rahman bin Surat's name. He sold one acre of his land to Sidek bin Hawawi, who unofficially owns it. Sidek pays only one-third of the water-rate and land-rent.

Case 3. Lot 3331 (Size 4 acres)

Initially the land was owned by:-

1) Hassan b. Haji Dahalan

2) Hidol b. Haji Dahalan

These two brothers got their sub-lots of two acres each through inheritance. The title was registered in Hassan's name.

It is interesting to note that Hidol who owned two acres unofficially sold them to Saidi bin Sidek who is the new owner. Both these owners have no legal existence and therefore there is no record of their transactions in Land Office Records.

Case 4. Lot 3358

According to the records at the District Office, Kuala Selangor, it was found that the owner was Samah bin Wahid. However, the interviewee Kassim bin Wahid (who is the operator) said that the present owners are:-

1) Desom binte Abdullah

2) Haji Zain

It was gathered from him that Desom was the wife of Samah bin Mohd who has died. Before his death he sold two acres of his lot to

Haji Zain. The sale was made on condition that if Samah could repay the money, the two acres would go back to him; but until then Haji Zain has full use of the two acres. Samah died before he could buy back the two acres. His wife inherited his one acre. Thus, co-ownership arose before husband's death and was carried on through the wife.

One-third of the water rate and land rent is paid by Besom, the rest is paid by Samah.

Case 5. Lot 3353

Land Office Records show that Haji Abdullah bin Surayo is the owner of the lot. The defacto owners are:-

1) Haji Abdullah

2) Sarip bin Ahyat

Each possess 1.5 acres. It is not sure whether the two new owners bought the lot together or separately. The water bill and land rent are divided between them.

Co-ownership due to Combined Purchase

Case 6. Lot 3409

Chek binte Mohd and Ahmad bin Md. Yardi bought this lot together. They subdivided the lot between themselves each getting 1.5 acres. The water bill and land rent are paid on 50% basis.

Case 7. Lot 3397

Haji Osman bin Hassan and Haji Abdul Jaffar bought this lot together and subdivided the lot into two equal parts of 1.5 acres each. The title is still in the old owner's name. (Sarip bin Muhawa).

Case 8. Lot 3393

The case is similar to case seven. The owners now are:-

1) Abdullah bin Moh Alip

2) Ahmad bin Hassan

Case 9. Lot 3377

Two persons, Haji Osman bin Jayamstan and Haji Abdul Rahman, together brought this lot. Title is registered in former's name. They square out the water and land rents.

Case 10. Lot 3353

Case same as above. Owners are:-

1) Seni bin Haji Idris

2) Kaslan bin Bakar

Case 11. Lot 3347

The lot has undergone two stages

1) Co-ownership

2) Inheritance of sub-lot.

Haji Sukor bin Harlibi and Surat bin Suradin together brought this lot and equally subdivided it. The land title being in former's name. When he died, the son Taman bin Haji Sukor inherited the land and the title was transferred to his name. The point here is that the son does not question about the legal aspect of the title; he does not lay claim to the other 1.5 acres. The two owners settle the land rent and water rate equally between themselves.

Co-ownership Due to Subdivision

Case 12. Lot 3361

The lot is registered in Sukaini bin Korono's name. He has taken on the task of dividing 1.5 acres of his three acres between his two children. They now own 0.75 acres each. They pay $\frac{1}{4}$ of the water rate and land rent each while the father pays half.

Case 13. Lot 3368

Haji Osman bin Kasan owns this lot. But he has divided this lot and the Kampong lot between his son and daughter. Thus, son got 1.5 of the sawah land and 1.5 of Kampong land. The daughter, too, gets the same amount. This is a typical example of fragmentation, subdivision and co-ownership.

Case 14. Lot 3359

Owners are:- 1) Sarip bin Ahyat

2) Rohani bin Ahyat.

Both brother and sister have inherited 1.5 acres each of the lot. The title is in the brother's name. They equally pay the water rate and land rent.

CHAPTER VI

CO-OPERATION

Joint-operation as a method of cultivation and crop-sharing is absent from the Block. The more common system of cultivation is that of co-operation. It is a system where the operators have specific sub-lots allocated to them for cultivation. The operators do not interfere with the other sub-lots which go to make the lot. From the first stage of cultivation to the final harvest it is the responsibility of the operators of the various sub-lots. They are, therefore, the risk bearers as well profit earners of their respective sub-lots.

A total of 16 lots in the Block were worked on co-operation basis that is 21.94% of the 73 dejure lots in the Block. They comprise 32 or 37.6% of the total farms.

Co-operation came about in the lots because of a few reasons.

1) The purchase or sale of sub-lots.

2) The renting in or renting out of sub-lots.

3) The giving away of sub-lots to relatives or friends, rent free. There are the giftee-operators.

It is the aim of this chapter to discuss co-operation under four headings.

1) Owner-operated sub-lots.

2) Owner-tenant sub-lots.

3) Giftee-operator sub-lots.

4) Special Cases.

An approach of this sort, it is assumed will help to facilitiate an understanding of the nature of co-operation as to why and how co-operation arose.

<u>Owner-operated Sub-lots in the Lots</u>

Table 6.1 gives a list of these sub-lots. Of the 32

farms that these sub-lots comprised 20 farms were owner-operated. They occupied a total of 30.5 acres of the 49 acres that the 16 lots under co-operation comprised of that is 51.7% of the area is under co-operation where owners operate their sub-lots. This high percentage gives us an indication as to the reasons why co-operation could have arisen.

Of these 20 farms only six farms have other lots outside the Block. The rest of the 14 farms do not have another land besides the one they possess in the Block. The average size of each sub-lot being 1.5 acres. Thus, it can be deduced that here co-operation in the lots could have come about due to the purchase or sale of sub-lots in the lots.

Owners in needs of cash and buyers in need of cash may have made transactions resulting in the sale and purchase of sub-lots. Land being the most important security of any holder it is possible that the owners may not have wanted to sell the whole lot or it could be that the potential buyer did not have enough money to buy the whole lot, so two or more potential buyers may have brought one lot from the owner and then worked on them on a co-operation basis.

The cases given at the end of the chapter will attempt to throw light on their various situations.

Landlord or Owner-tenant/ Sub-lot in the Lots

It is quite common for farmers to rent in sub-lots from landlord who have land to rent out. These farmers may or may not have other lots or sub-lots on which they operated prior to renting in the new lot or sub-lot.

Table 6.2 shows the farms that have been rented in. Seven farmers have rented in seven sub-lots. This is in three lots and one sub-lot. If two farmers were to rent in half a lot each, they cannot be operating on a co-operation basis because no question of undivided shares arise. These two farmers have nothing to do with each others. Except for the common lot that they are working on, they are independent of each other. These farmers pay rent in kinds, not cash. The rent is on the 'Bagi Dua' basis that is it is half the total harvest of padi.

Giftee-operated Sub-lots in the Lots

It is quite common to see farmers working on sub-lots that have been given to them by some kind relative or friend to work on. These farmers do not own the land; neither do they pay any rent of any kind. They cultivate the land and have full ownership of the harvest.

One lot and one sub-lot inside the Block was operated on co-operation of this sort.

TABLE 6.1

OWNER-OPERATED OPERATED FARMS

Farms	Size of Sub-lots (acres)	Lot No.	Lots Outside Block (acres)
F2	2.0	3331	-
F5	1.5	3343	-
F6	1.5		3.0
F3	1.5	3347	-
F7	1.5		-
F10	1.5	3359	-
F11	1.5		-
F21	1.5	3399	-
F35	1.5	3368	-
F36	1.5		-
F47	1.5	3353	-
F48	1.5		8.0
F54	1.5	3377	2.5
F55	1.5		-
F60	1.5	3393	1.0
F61	1.5		-
F62	1.5	3397	5.0
F63	1.5		2.5
F66	1.5	3409	-
F67	1.5		-
-	30.5	-	-

TABLE 6.2

OWNER-TENANT OPERATED FARMS

Farm	Size of Sub-lot (acres)	Lot No.	Cash	Kind
F1	2.0	3331	-	Ragi Dun
F22	1.5	3403	-	" "
F16	1.5		-	" "
F23	1.5	3407	-	" "
F24	1.5		-	" "
F80	1.5	3390	-	" "
F81	1.5		-	" "
Total	11.0	-	-	-

In Lot Number 3385, the father has given each of his two children, half a lot.. They had the full responsibility of their respective 1.5 acres. They paid no rent of any kind. These two sub-lots were given as gifts to his children. Thus, this lot was under co-operation.

The other was one in which a son-in-law is given 1.5 acres to work on. He also does not pay any rent.

TABLE 6.3

GIFTEE-OPERATOR OPERATED FARMS

Farm	Lot No.	Size of Sub-lot (acres)	Relationship
F20	3399	1.5	son-in-law
F57	3385	1.5	son of owner
F58		1.5	son of owner
Total	-	4.5	-

Special Case of Co-operation

In Lot 3361 has divided 1.5 acres of his land equally between his son and daughter. The other 1.5 acres is left for himself. Thus, bringing about the creation of three holdings. This is because the father has in fact given away ownership of 1.5 acres to his son and daughter. The son operates his own sub-lot of 0.75 acres; but the daughter has given her 0.75 acres to her father to operate. This sub-lot is adjoining the father's sub-lot that gives her half the harvest.

Thus, here we have a situation where owner owns his sub-lot of 1.5 acres. He further operate on 0.75 acres of which half the harvest belongs to him. Thus he is in fact both an owner as well as a tenant.

This has been considered a case of co-operation because there is no question of undivided shares arising.

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Co-operation due to Purchase

Case 1 Lot 3409 F66 F67

This case is referred to under co-ownership of land that has arisen due to purchase in Chapter V. It shows how co-ownership arose and since the co-owners operated their lots, the question of how co-operation arose is self-explanatory (Refer Case V).

Case 2 Lot 3197 F62 F63

Also given under co-ownership due to combined purchase in Chapter V (Refer Case 6).

Case 3 Lot 3193 F60 F61

Refer case on co-ownership (Case 7).

Case 4 Lot 3353 F47 F48

Refer case on co-ownership (Case 9).

Case 5 Lot 3347 F23 F24

Refer case on co-ownership (Case 10).

Case 6 Lot 3377 F54 F55

Refer case on co-ownership (Case 8)

Co-operation due to Renting in of Sub-lots

Case 7 Lot 3407 F23 F24 Size 3 acres

Here, Siti Kalijah binte Serveire is the owner of the lot. She has rented it out to two operators.

1) Md. Zalid bin Haji Hassan

2) Maalan bin Zain

The former operates one acre, the latter two acres. Each pays rent on the Bagi Dua basis.

Case 8 Lot 3190 F60 F61

The owner is Saman bin Sidek. He has rented out his lot equally to two operators. They are:

1) Haji Abdul Rahman bin Dipo

2) Haji Abdul Rahim

Each pays rent on the Bagi Dua basis.

Case 9 Lot 3401 F22 F16

The owner is Haji Abdul Karim. He has rented out lot equally to two operators.

1) Masturi

2) Ismail bin Abdul Karim

They both pay rent independently on the Bagi Dua basis.

Co-operation due to Subdivision of Lot

Case 10 Lot 3368 F35 F36

Refer case on co-ownership (Case 11).

Case 11 Lot 3339 F10 F11

Refer case on co-ownership (Case 13).

Co-operation due to Gifts

Case 12 Lot 3399 F20

Refer case on co-ownership (Case 1).

Case 13 Lot 3385 F57 F58

The owner is Kosni binte Mustaffa. She has divided her lot into two equal sub-lots and given them to her son. She still possess claim to ownership of the land. Her two sons are:-

1) Hamzah bin Kosni

2) Takim bin Hashim

They do not pay any rent to their mother but keep the harvest for themselves.

CHAPTER VII

ANALYSIS OF LOCATION OF LOTS AND SUB-LOTS

By location we mean 'where' or 'place' thatis we want to know where the lots and sub-lots are to be found. So far we have been only talking of lots and sub-lots under two general headings. That is those lots and sub-lots inside the Block and those lot outside the Block. Our aim is to break this two headings further down and be more precise as to where the lots and sub-lots are located. We have already discussed lots and sub-lots in terms of holdings and farms, and by area. This was done in Chapter Two and Three respectively. In this chapter, we basically want to know one fact and that is the location of lots and sub-lots.

This will be dealt under three main headings:-

1) Location of lots and sub-lots inside the Block.

2) Location of lots and sub-lots outside the Block but inside Sawah Sempadan.

3) Location of lots outside the Block, and outside Sawah Sempadan.

Location of Lots and Sub-lots Inside the Block

The Block is, for this discussion, divided vertically into four sections. Namely Section A, B, C and D. (Refer Map 1).

Table 7.1 gives us information as to where the lots and sub-lots are to be found. Two types of information is given in the Table.

1) Number of lots and sub-lots in each Section.

2) The area occupied by the lots and sub-lots.

This is done to simplify discussion. We are however handicapped in one way. That is the number of lots that have been surveyed in each section differs.

Sections	Lots Not Surveyed
A	1
B	7
C	5
D	3
Total	16

TABLE 7.1

LOCATION OF LOTS AND SUB-LOTS BY GROUP SIZE INSIDE THE BLOCK

Lot Size (acres)	Section A		Section B		Section C		Section D	
	Lot	Sub-lot	Lot	Sub-lot	Lot	Sub-lot	Lot	Sub-lot
4	-	-	-	-	1	-	-	-
3	16	-	14	-	10	-	17	-
2	-	2	-	-	-	-	-	-
1.5	-	10	-	2	-	11	-	2
1.0	-	-	1	-	-	-	-	-
0.75	-	-	-	-	-	2	-	-
Total	16	12	15	2	11	13	17	2
Area	48	19	43	3	24	10	51	3
Total Area	67		48		52		54	

Because of this, we cannot make any comparisons.

In Section A, 67 acres or 30.6% of the total average surveyed inside the Block is found. Out of the total 59 lots inside the Block, 16 are found in this Section. There are 13 sub-lots here out of the total 29 inside the Block. While the lots occupy 48 acres in this section the sub-lots occupy 19.0 acres.

The ratio of lots to sub-lots being 4:3

In Section B, lie 46 acres or 21% of the total area surveyed inside the Block. There are fifteen lots but only two sub-lots. The lots occupy 43 acres but the sub-lots occupy only 6.51% of the total area inside the Block.

The ratio of lots to sub-lots is 15:2.

In Section C, 52 acres of the total surveyed area is found (23.7%). There are 11 lots and 18 sub-lots. This is the only section where the number of sub-lots is greater than lots. But inspite of this the area occupied by the lot is twice as high as the sub-lots. Lots occupy 34 acres and sub-lots occupy 18 acres.

In Section D, 54 acres (5.56%) of total acreage in the Block is found. It contains 17 lots and three sub-lots. While the lot occupy 51 acres, the sub-lots only occupy three acres.

The ratio of lots to sub-lots is 17:2.

From the four sections it can be seen that of the 29 sub-lots in the Block, the largest number are found in Section A and C. This is inspite of the fact that five lots in Section C yet remain to be surveyed. Together, the two sections contain 25 of the 29 sub-lots. No reason can be given as to why most of the sub-lots are found in Section A and Section C.

Location of Lots and Sub-lots Outside Block but in Sawah Sempadan

In Table 7.2, we can see the location of these lots and sub-lots. There is little that can be said of these three lots and one sub-lot. The total area occupied by them is 10.5 acres. Except for Block J, Blocks N and P are on either side of the Block. The nearness to the Block could be a reason as to why they are located there.

Location of Lots Outside Sawah Sempadan

A total of 41 lots occupying an area of 128 acres is found outside Sawah Sempadan. These lots are located at nine different places (Table 7.3). There is a clear pattern in their location, all are located along the main laterite road.

By far the most number of lots are located at Sungei Tinggi

Because of this, we cannot make any comparisons.

In Section A, 67 acres or 30.6% of the total average surveyed inside the Block is found. Out of the total 59 lots inside the Block, 16 are found in this Section. There are 12 sub-lots here out of the total 29 inside the Block. While the lots occupy 48 acres in this section the sub-lots occupy 19.0 acres.

The ratio of lots to sub-lots being 4:3.

In Section B, lie 46 acres or 21% of the total area surveyed inside the Block. There are fifteen lots but only two sub-lots. The lots occupy 43 acres but the sub-lots occupy only 6.51% of the total area inside the Block.

The ratio of lots to sub-lots is 15:2.

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TABLE 7.2

LOCATION OF LOTS AND SUB-LOTS INSIDE SAWAH SEMPADAN BUT OUTSIDE THE BLOCK

	Block J		Block N		Block P		Total
	Lot	Sub-lot	Lot	Sub-lot	Lot	Sub-lot	Acreage
3	1	-	1	-	1	-	9
1.5	-	-	-	-	-	1	1.5
Total	1	-	1	-	1	1	10.5

Kanan. Here 18 of the 41 lots are found. This is 43.09 or nearly 50% of the lots. The nearness of the place to the Block could be a factor which has led to their location there. It is important to note that travelling could cause much inconvenience and loss in efficiency. Thus, the nearness of these lots to the lots and sub-lots could be a measure to overcome this disadvantage.

Batu Tujoh adjoins Sungai Tinggi Kanan. Here the second highest number of lot that is only five lots located. The rest of the 18 lots are distributed among seven places.

Batu	Lots
B. Sembilan	4
B. Lapan	4
Sungai Sereh	4
B. Enam	2
B. Lima	2
B. Empat	1
Bukit Belimbing	1
Total	18

CHAPTER VIII

PADI OUTPUT AND PRODUCTIVITY[1]

The main cereal grown in Sawah Sempadan is padi. It is the staple food of the farmer. Padi is grown for both home consumption as well as for cash. It is the sole means of livelihood and the output per year of each farm determines the income of the farmer for the same period. Thus, it is important to know the total quantity produced, the varieties planted and whether yields are high or low as compared with past years.

The total output of padi in the Block was 59,945 gantangs for the session 1963/64. This amount was harvested for 73 lots which comprised 219 acres. This is about 815.7 gantangs per lot. However, this is not a fair average because some of the lots are four, three and some one acre in size. Thus to get a more representative average would be one where we take lots of standard size. Since 70 lots are three acres each thus 832.71 gantangs per lot is a better average. This is 277.5 gantangs per acre.

In the 1962/63 period of cultivation, a total of 49,220 gantangs of padi was harvested in the Block - an average of 674.24 gantangs per lot or about 224.73 gantangs per acre.

This shows that output for 1963/64 was far better than 1962/63. There was an improvement of about 10,725 gantangs. This is an average increase of 52.84 gantangs per lot. Various reasons were given by the farmers as to why the yields were higher for 1963/64. One most common claim was that an ulat (ulat Batang) a pest attacked a large percentage of padi plants in the 1962/63 period and thus destroyed a lot of them. (This pest, ulat, is discussed in greater detail in Chapter IX).

Another complain was that in the 1962/63 period, Taiwan padi was first introduced and planted. It was a double-crop but instead of yields increasing they decreased. The ulat batang too, attacked the padi plants that year and it extensively damaged many

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[1]The conversion rate of converting a kerosene tin in gantangs is one tin = five or six gantangs (as given by farmer). This figure tough incorrect are still used. Actually one tin = four gantangs.

of the padi plants.

Thus, because of these two reasons, yields were low in 1962/63. However, though in the 1963/64 period the ulat was still present in the fields (it has not been completely eradicated inspite of spraying insecticides) the reversal to single cropping enabled higher yields.

The highest yield obtained in 1963/64 was in Lot 3400 - 2,500 gantangs. The lowest was in Lot 3359 - 180 gantangs. There is a range of about 2,320 gantangs.

Table 8.1 shows the output of padi by the Lots. About 53% of the lots, produce between the range of 400 - 800 gantangs. Only 21 lots went above the 1,000 gantang each. Only two lots produced below 400 gantangs.

TABLE 8.1

PADI OUTPUT IN GANTANGS 1963/1964

Gantangs	Lots	Percentage	
Less than 199	1	-	-
200 - 399	1	-	-
400 - 599	20	27.39	-
600 - 799	19	26.02	79.42
800 - 999	11	15.06	
1,000 - 1,199	8	10.95	
1,200 - 1,399	6	-	-
1,400 - 1,599	5	-	-
1,600 - 1,799	1	-	-
Over 1,800	1	-	-
Total	73	-	-

Thus, it can be said that 79.42% of the lots produce

between the range of more than 400 gantangs and less than 1,000 gantangs.

We cannot draw any conclusions from the above figures because we do not have any basis of comparison. We do not know what the average yields in other Blocks were. We do not know whether total outputs there increased or decreased in the 1963/64 period as compared to 1962/63.

Variety of Padi Planted Inside Block

Basically the following situations were found in each lot.

1) One main variety plus pulut.

2) Two main varieties plus pulut.

3) Three main varieties plus pulut.

Pulut was found in all lots. But it was never grown in large quantities, the quantity harvested was insignificant in amount compared with the total harvest. Thus, we shall leave out pulut from our present discussion. It will be discussed later under heading of 'Pulut'.

One Variety Farms

In 59 farms only one variety of padi was planted. The most popular single crop per farm was Radin Puteh cultivated in 30 farms. Radin China came next with 18 farms denoted to it. Radin Pahang has eight farms to it. Radin Che Ma, Radin Kuning and Kudu have one farm each denoted to it.

The rest of the 26 farms (30.58%) are under more than one variety of padi.

Two Variety Farms

Twenty-five farms are under two varieties of padi. They are in the following continuation.

		Farms
Radin Puteh	- Radin China	13
Radin Puteh	- Radin Pahang	4
Radin Puteh	- Seri Raja	2
Radin Puteh	- Radin Mengkuang	1
Radin China	- Seri Raja	2
Radin China	- Padi Burong	1
Radin Pahang	- Seri Raja	1
Radin Pahang	- Padi Suroyong	1
Total		25

It was found that the most popular two varieties planted on one farm were Radin Puteh and Radin China. There were thirteen farms having this twin combination.

Three or More Variety Farms

There was only one farm which planted three varieties of padi. Namely Radin China, Radin Puteh and Seri Raja (Lot 3378 F77).

Thus, it can be seen that by far the most popular variety grown was Radin Puteh which was found in 50 of the total 85 farms.

Other than this information we cannot say anything much about other things. Since we do not know the exact total ouput each variety produces. This is because 26 of the farms produce more than one variety and also the fact that we have only gross output figures. Therefore, it is difficult to come to any conclusion as to the variety of padi that produces the highest output and would be most beneficial to the farms from output and income points of view.

Furthermore even for the 59 farms which it was earlier stated, planted only one variety, this one variety is not absolute. 'Pulut' is part of the total harvest even though it's quantity is not significant.

Pulut

Nearly all the farms in the Block plant some pulut. This is about ten to twenty gantangs of the total harvest. During the interview some farmers were bold enough to acknowledge the existence of this plant in the midst of the main crop, others feel that it was too small an amount and thus needed no mentioning. Some simply laughed when questioned as to the number of gantangs of pulut they harvested.

From here we can draw a few conclusions:-

1) Pulut forms a very insignificant part of the total harvest.

2) It is grown more for home consumption rather than for cash.

Thus it was because of these two reasons especially the first that pulut was included in the figures of total harvest.

Variety of Pulut

It is interesting to note that inspite of the small quantities of pulut planted there were no less than five varieties discovered in the Block.

They were namely:-

1) Pulut Galah

2) Pulut Serang

3) Pulut Sereh

4) Jarong Mas

5) Pulut Merah

Of these, Pulut Sereh was by far the most popular variety planted.

The presence of a large number of varieties could be due to the fact that some pulut was for home consumption the farmers planted that variety which was more akin to his taste.

Next it would be pertinent to look at the types of owner-operator, tenant-operator etc. relationships that produced the total padi output.

Table 8.2 gives a complete list of the various forms of relationships. It also gives the number of lots and sub-lots and the total output of each type of relationship.

Owner-operators

They cultivated 61 out of the 89 lots and sub-lots. Their output was 39,575 gantangs that is 66.40% of the total harvest for 1963/64 (Table 8.2A). This is the largest group and cover 153.75 acres of the total 219 acres in the Block.

TABLE 8.2A

OWNER-OPERATOR

Size of Lot & sub-lot cultivated (acres)	Frequency	Total Acreage	Total output (gantangs)
6	1	6	1,740
4	1	4	600
3	37	111	28,580
2	1	2	250
1.5	20	30	8,255
0.75	1	0.75	150
Total	61	153.75	39,575

Tenant-operators

They produced 16,030 gantangs from 19 lots and sub-lots comprising 47 acres of land (Table 8.2B). These tenants pay rents on the Bagi Pun basis. The payment of water-rate and land rent is responsibility of the owner.

TABLE 8.2B

TENANT-OPERATORS

Size of Lot & Sub-lot Cultivated (acres)	Frequency	Total Acreage	Total Output (gantangs)
3.0	12	36	12,760
2.0	2	4	820
1.5	4	6	2,200
1.0	1	1	250
Total	19	47	16,030

Other Relationships

The rest of the land was taken up by six types of relationships (Table 8.2C). The one characteristics feature of this was that no rent was paid for the use of the land. This was more on family basis than anything else. These family arrangement has five lots and four sub-lots denoted to them.

It can be noticed that while the largest operated land of two lots (6 acres) came from owner-operator group, the smallest too, was also from this group. It was 0.75 acres in size.

Finally, it cannot be said specificially which section of the Block produced the highest yields. This was because there was such such pattern discernable inside the Block. Thus, the only factors which may be responsible for high or low yields could be either absence or presence of pest, disease, the initiative of the farmers and the water sufficiency of the farms.

Lastly, let us see whether any difference in ouput is discernable in the lots which have building on them as compared with those that do not have any.

There are altogether 73 lots inside the Block. Fourty-two lots have dwellings on them, thirty-seven lots do not have any dwellings on them. The 42 lots produce 30,715 gantangs of the total padi output inside the Block. The 31 lots produce 29,230 of the total. The ~~eleven extra~~ lots with buildings therefore, produce only 1,485 gantangs more than the lots on which there are no buildings. This clearly shows that output of the 31 lots is definately higher than that got from lots on which there are dwellings. This is expected because the houses and the compounds around the house in each lot occupy at least a little less than half an acre of land. Thus, they reduce the average available for padi. Therefore, it is natural that lots with dwellings should have lower yields than those without houses on them.

TABLE 8.4 C

OTHER RELATIONSHIPS

Relationship	Size of Lot & Sub-lot Cultivated (acres)	Frequency	Total Acreage	Total Output (gantangs)
Son - operator	3.0	1	3.0	200
- do -	1.5	2	3.0	700
Son-in-law Operator	3.0	1	3.0	650
- do -	1.5	1	1.5	600
Husband-operator	3.0	1	3.0	750
Wife-operator	1.0	1	1.0	700
Relative-operator	3.0	1	3.0	590
Father-operator	0.75	1	0.75	150
Total		9	18.25	4,340

CHAPTER IX

PEST AND DISEASE

The two most common enemies of padi are disease and pest. Together they are responsible for the reduction of padi output. The reduction of output depends on the intensity of the damage done and the effectiveness of control measures initiated by both the farmers and the Agricultural Department. It is however very difficult to assess the damage done by these two evils. The only way by which some idea as to the extent to which damage has been done is (if other factors are same) by comparing present yields of affected lots with past yields. But the problem is that 'other factors' keep on changing.

It is not the purpose of this chapter to assess the damage done by pest and disease in the Block, neither is it the purpose to show how yields have increased or decreased due to increase or reduction in pest and disease. It is the aim of this chapter to comment on some of the more common diseases and pests that were found inside the Block. Pests and disease will be dealt under separate headings.

Pests

Various types of pest plague padi plants year after year. These pest are birds, rats, animals, caterpillars, worms and etc. In the Block, the two most common pests discovered were:-

1) Ulat Batang

2) Rats

Ulat Batang

This pest was found to have attacked the padi plants of nearly all the farmers. Hundred percentage of the farmers complained about its existence and the damage it had done.

From what the farmers said the 'ulat' was first discovered in the farm when Taiwan padi was introduced in Sawah Sempadan as a double crop. This was in 1962/63 period. Large areas of padi plants were devastated then. The total output of padi in the Block in 1962/63 was 49,220 gantangs that is an average of 224.73 gantangs per acre. The Agricultural Department moved in to tackle this pest. However it failed to completely eradicate the pest, though they managed to reduce the number. Thus, in

1963/64 period of cultivation the total ouput of padi inside the Block was 59,945 gantangs that is an improvement of 10,725 gantangs. This brought the average per acre output to 271.5 gantangs, an increase of 27.17 gantangs per acre as compared to the 1962/63 average.

However, it is still to be proved as to whether yields increased because there was a reduction in the ulat or it was because of the renewal to single cropping and the use of familiar padi seeds that was instrumental in the increase in yields.

Now, what is this Ulat Batang? It is a stem-boring caterpillar 'which after hatching from eggs laid on the leaves borrow down inside the leaf-stalks of the paint where they feed about 15 days. The damaged stems either die or produce little or no crops, or empty 'white ears'.

'The stem borers multiply rapidly several generations occur each year and they can do considerable damage to the crop.'1

What control measures are there to combat this pest?

'No complete control measures have yet been evolved but spraying with insecticide as a dieldrum will lessen the attack considerably. These insecticides, unfortunately are toxic to fish in the padi fields as well. The problem of control in areas where padi-fields' fish are economically important is therefore complicated.'2

Rats

They 'constitute one of the most serious and widespread menace to rice production in Malaya.'3 However, only nine lots in the Block has complains about rats. It is considered that this information is not reliable because it is not possible that one lot should be plagued by rats while the adjoining one should have no such problems. It could be possible that the other owners may have overlooked this pest since they were more excited to tell about the ulat batang to which they were new, rather than the age old pests like rats.

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[1]Ministry of Agriculture, Agricultural leaflet No. 42 Federation of Malaya. Padi..... pg. 17

[2]Ministry of Agriculture, Agricultural leaflet No. 42 Federation of Malaya. Padi..... pg. 17

[3]Ministry of Agriculture, Agricultural leaflet No.42 Federation of Malaya. Padi..... pg. 15

Farms which complained about rats are given below:-

1)	F13	Lot No.	3367
2)	F77	" "	3378
3)	F15	" "	3389
4)	F78	" "	3382
5)	F59	" "	3395
6)	F79	" "	3386
7)	F75	" "	3366
8)	F80	" "	3390
9)	F81	" "	3390

Other Pests

Two owner-operators complained besides ulat batang about birds and worms destroying their crops. Again, it is contended that these pests must have been common to the whole Block rather than be confined to two lots.

Diseases

Various types of diseases attack padi plants. Some of these re-occuring year in and year out, while others are more sporadic and localised in nature.

In the whole Block only one farmer (Lot 3388) complained about disease in his farm. The disease was 'penyakit merah'. No other farmer said any words about its presence. The characteristic feature of penyakit merah is the 'stunning of the whole plant and decoloration and dying back of the outer leaves.'[4] The cause as to this disease is not wholly ascertained but unfavourable soil has been the reason attributed to it. The use of correct fertilizer and water can to an extent help eradicate this disease.

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[4]Ministry of Agriculture, Agricultural leaflet No: 42
Federation of Malaya. Padi..... Pg. 23

CHAPTER X

VIEWS REGARDING WATER-SUPPLY

'The yield of rice is dependent to a great extent on the water level throughout the growing period, and high or low parts in the field where water is either too shallow or too deep can cause significant reduction in yield. Weed growth is suppressed by deep water while shallow water allows rapid regeneration of the weed. The optimum depth of water is three or four inches, if the water is deeper than this early tillering may be inhibited and if it is shallower weeds grow rapidly.'[1] Thus, water control is very important for high productivity and what could be a better method than the use of irrigation, whereby water control in and out of fields can be regulated by the farmer.

Sawah Sempadan gets its water-supply from irrigation canals. These canals surround all the Blocks in the area and are a prominent feature of the place. The Sawah Sempadan Irrigation scheme is a part of a much larger project - the Tanjong Karang Irrigation scheme which is approximately 500 square miles lying between the Bernam River and Selangor River.

However, we should not take it for granted that water-supply through irrigation is a satisfactory method of bringing water to the padi fields. From time to time it is important to find out to what extent, it does and to what extent it does not satisfy the farmers' needs.

In the questionnaire view regarding water-supply were asked. The question was in two parts.

1) Dealt with the timing of water

2) The amount of water.

The result of the interview are given in Table 10.1. 84.7% of the 85 farmers inside the Block expressed satisfaction with the water-supply. Those who were dissatisfied formed 5.3% of the farmers. They came from 13 farms. Of these 13 farms

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[1] Ministry of Agriculture. Agricultural leaflet No: 42 Federation of Malaya. Padi ..... pg. 6

TABLE 10.1

WATER-SUPPLY IN BLOCK

	No. of Farms	Percentage
Right time/Right amount	72	84.7
Right time/too much	6	
Right time/not enough	3	
Too late/not enough	2	15.3
Too late/too much	1	
Too early/too much	1	
Total	85	100.0

ten farms were three acres each in size and three farms were 1.5 acres each in size. It is interesting to note that the last group were sub-lot. Thus, they formed part of a lot. This is shown in Table 10.2. The only explanation that can be given for their water problem is that it could be that their counterparts (that is those farmers who own the other sub-lot) did not co-operate with them.

TABLE 10.2

WATER-SUPPLY IN BLOCK

	Lot No.	Piece in Acres	Water Complains	
			Timing	Amount
F6	3343	1.5	Right	Too much
F16	3403	1.5	Too late	Not enough
F66	3409	1.5	Right	Too much

Thus, there was, as is shown in the Table either a delay in the arrival of water, or there was too much water in a sub-lot because the farmer in the adjoining sub-lot had refused to allow the water to flow into his sub-lot.

But when we look at the other affected lots we are confronted with a problem. How are we logically explain their water-problems? Table 10.3 shows the affected lots.

TABLE 10.3

FARMS HAVING WATER PROBLEMS

No.	Farm No.	Lot No.	Area in Acres	Water Complains	
				Timing	Amount
1	F3	3335	3	Too early	Too much
2	F15	3375	3	Right	Too much
3	F16	3379	3	Too late	Too much
4	F18	3391	3	Right	Too much
5	F30	3348	3	Right	Too much
6	F59	3389	3	Right	Not enough
7	F68	3338	3	Right	Not enough
8	F70	3346	3	Right	Not enough
9	F72	3354	3	Right	Not enough
10	F78	3382	3	Right	Too much

The reason could be any one or more of the following:-

1) The location of water-locks.

2) Lack of co-operation between farmers.

3) The inefficiency of the farmer himself.

4) Other farmers too, have water problems, but they may have treated the question lightly and thus found the shortest way out by saying everything was all right.

Even the sloping nature of the Block does not help to explain anything.

One way of finding whether the complains of the farmers were genuine can be found in the quantity of padi produced in the respective lots and compare it with the other lots which did not have water problem, or we can compare the yields of the affected farm with those that they attained last year. Table 10.4 shows the yield for 1962/63 and 1963/64 of affected farms.

TABLE 10.4

PADI YIELDS IN AFFECTED FARMS

Farm No.	Lot No.	Area in Acres	Yield in gantangs (1964)	1963 Yields		
				More	Less	Same
F3	3335	3	840	-	200	same
F15	3375	3	750	-	200	-
F16	3379	3	750	-	120	-
F18	3391	3	900	-	500	-
F30	3348	3	500	350	-	-
F59	3389	3	1,290	215	-	-
F68	3338	3	1,500	-	-	1,500
F70	3346	3	540	-	unknown	-
F72	3354	3	500	120	-	-
F78	3382	3	1,000	-	-	1,000

It is seen that yields in these lots are fairly high when compared with the average yield of 832.71 gantangs per lot for the whole Block.

Three lots have attained 1,000 gantangs, this when compared with other lots in the Block that is those lots that did not have water problems is a very high figure.

Thus on a comparison basis the output of affected lots are fairly high. Therefore, it is difficult to come to any conclusion as to whether the complains of the farmers were genuine,

or whether farmers were indifferent to the question. If we look at the last three columns of Table 10.4, we will notice that output was higher than last years for 3 lots, same for two lots and less for five lots.

Obviously, we have to take into consideration other factors when explaining this water inadequacy could be a factor, but it is definitely not the only one.

Thus, in conclusion it can be summed that 84.7 farmers have no complain about the water supply. Of the 5.3% that have grievances, 37 of the farmers' problems can be explained but of the remaining we cannot say much because there is no one specific reason that can be pin-pointed to show where there was water problem in these lots.

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CHAPTER XI

OTHER CROPS

Maize

Next to padi, maize is the most important cereal grown in Sawah Sempadan. Like in most parts of the country, it is grown as an off-season crop after the padi has been harvested and the fields have been left fallow for a month or two. In the survey conducted there was no specific question directed to this crop. The information collected came under the general item of 'what other crops were grown on the land in 1964'.

Thus, no information was collected about the variety of the crop that was grown. Neither was the information regarding the acreage under cultivation nor the quantity that was harvested collected. Therefore, the information that will be presented here, will relate to findings uncovered through casual questions.

Before going further let us first see what percentage of the farmers cultivated this crop. See Table 11.1.

TABLE 11.1

FARMERS WHO CULTIVATE AND THOSE WHO DO NOT CULTIVATE MAIZE IN BLOCK

Farmers	No. Cultivating	No. not Cultivating	Total
Living on Land	32	7	39
Living away	34	12	46
Total	66	19	85
Percentage	78.57%	21.43%	100%

Since the land in Sawah Sempadan must be denoted only to rice, (this being the main crop) maize was grown only as an off-season crop. Out of the 85 farmers in the Block, 66 cultivated this crop (78.57%). The rest of the 21.43% did not grow this crop.

Of the farmers who lived on their farms in the Block, 32 out of 39 cultivated maise. Only 18% did not do so.

The percentage of those who lived away from the Block 73.9% cultivated this crop, the rest, 26.1% did not do so.

This figure of 26.1% when compared with the figure of 18% who lived on the Block and did not cultivate maise is quite significant. The reason for this could be due to the distance the farmers had to travel to reach their pieces in the Blocks or it could be due to the commitments of the farmers elsewhere.

One point is note-worthy here. That is that all the 19 tenant-operators (in Table 8.3B, Chapter VIII) grow maise as an off-season crop. This specifically shows, that they need for additional means of livelihood to maintain themselves.

The cultivation of maise take quite a bit of the farmers time since 'at least two cultivation rounds are required, the time for them depends on the intensity of weed growth and soil conditions. The first operation should be third weeks after sowing followed by second third or fourth weeks later.'[1] Further as the plant 'produce adventitious roots the surface soil between the rows must be drawn up towards the plant in the form of a ridge.'[2] though however the ridging can be achieved in the course of cultivation Further when the crops come out the peats have to be checked. This requires some attention. Thus, it is possible that farmers bring away from the lots or sub-lots in the Block cannot afford the time because of commitment in their kampong lands. This is more so if these farmers are holders.

The area planted with maise is usually less than half an acre. It is quite obvious the maise has something to do with a large majority of the farmers and that it is part of their diets since maise was not grown as a cash crop.

It was noted that most of the farmers who lived on their lots and sub-lots in the Block and cultivated maise also has fruit trees like coconut, bananas and keladi plants around their houses. But there were also instances when non-maise grower living in the Block also planted bananas and coconuts around their houses. The coconut and banana trees that were planted around the houses in the Block, were worthy between the figures of five to six plants each per lot.

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[1]Ministry of Agriculture. Agricultural leaflet Maise ..... pg. 9

[2]Ministry of Agriculture. Agricultural leaflet Maise ..... pg. 9

The reason why these plants were preferred because of the ease with which they could be grown, (labour required was insignificant) the shade that they provided and the fruits of these plants served as useful delicacies for the 'makan' table.

Pineapples and Sugar Cane

Only two farmers planted pineapples around his house and surprisingly enough sugar cane was planted by only one farmer.

Thus, in conclusion it can be said that besides rice, the next most largely grown crop was maize. Coconut and banana trees being very popular around the houses. Sugar-cane, pineapples, papaya, mangoes, and kaladi were also found growing here and there in the Block. But there cannot be taken seriously because only four to five farmers have either of these trees in their lots or sub-lots.

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CHAPTER XII

GENERAL OBSERVATIONS, COMMENTS AND SUGGESTIONS

The purpose of this chapter is manifold, the most fundamental of which is the inclusion of tropics that could not be included in the other chapters. This will enable the reader to get a much more concise picture of Sawah Sempadan. These tropics are general observation made of Sawah Sempadan and the Block during the survey, comments of various things of interest and suggestions that would help faciliate the work of future students going to the area.

Sawah Sempadan has a good system of communication. Thus, making it easy to travel from one place to another, whether this is inside the Block or from one Block to another. There are two main types of roads in Sawah Sempadan. 1) Those that are of laterite and 2) those that are not. These latter roads or lanes have either been constructed by the people themselves living in the area or have been laid out by the Public Work Department, but have as yet not been given a coating of laterite. Thus, while the laterite roads are accessible by heavy vehicles like lorries and jeeps, the same cannot be said of the other group. Here, it depends on the road. Some of these can accomodate the heavier vehicles while others good only for bicycles. But one thing that is common to both set of roads is that the bicycle is accomodating to both of them. This fact is very clear from the large number of bicycles that are seen to be in use in Sawah Sempadan. The bicycle is cheap and has many uses to the farmer. The farmer can transport his harvest on his bicycle, he can travel to and from the local shops or the town at Tanjong Karang. It enables him to save much time. Furthermore, a bicycle is easily portable. Thus, in places where the roads is full of holes or where a drain has been dug which hinders the short-cut the farmer could have taken to save him much time and energy, the bicycle can easily be carried. Many more such uses of the bicycle can be thought of. It is because of this important of this bicycle to the farmer and his family, that it is quite common for him to have at least one if not two bicycles. This was the case in Sawah Sempadan.

Nearly all the farmers in Sawah Sempadan sell their padi to the Co-operative Society that caters for their need. The farmers do not have to transport their padi all the way to Society's rice-mill because the farmers can deposit their padi at various convenient collecting places. These places enable the farmer to

save much time as well as energy in having to carry his padi over long distances. There are many such collecting places set-up in various Blocks. One of these is near the western end of Block O just across the laterite road. This collecting place is in a local retail shop that is situated there. From here the padi is taken away by lorries to the Co-operative Society Milling Centre at Tanjong Karang. The major part of the affairs of the Co-operative Society are handled by Government officials since it is set up by the Government as a measure to combat the activities of the middleman and give the farmer maximum benefits for his labour.

The houses of the farmers in the various lots are built closer towards the road than further inside the lot. The road itself could be a factor which is the main determinant of this. It would be to the advantage of the farmer to have his house near to the road rather than at the other end of the lot further away from the road and later have the problem of travelling some distance before reaching the road.

Some of these houses have flower plants planted in their compounds while other do not have them. It is normally the houses that are better built and more lasting that have these plants. The presence of these flowers could be an indication of the standard of living of the farmer. It could be that there are ladies in the house interested in the flowers. Maybe the incentive to plant flowers is greater if the house is an impressive one. Sophistication could be the reason. We do not know. But of one thing we are certain and that is it is rare to find flowers around houses that are poorly built and would not last very long.

Sawah Sempadan has its abundance of local retail shops which cater for the needs of the farmers. There were two such shops on the outskirts of Block O. One was to the East in Block P, close to Block O. The other was to the west of the Block near the road junction of Blocks O and P - this is where the co-operative padi collecting centre was located. There was another retail shop being built at the time of the survey in Block J opposite to the one in Block N. Besides this, the farmer of Block O had the weekly sundry market that was held at Tanjong Karang catering for their needs.

There is no pipe-water in Sawah Sempadan. This has to be got either from the canals that abound the Blocks or from well dug near the houses. There is only one public tap and this too, is not in Sawah Sempadan but at Batu Tujoh near the main road. Besides, water-supply none of the houses in Sawah Sempadan have electricity. The people use either oil or gas lamps.

For the education of the children of the residents of Sawah Sempadan, there are three schools.

1) In Sungai Tinggi Kanan, near the western end of Block N and O.

2) In Block K, closer to Block J than Q.

3) In Block P, closer to Block S than Block O.

While the former two schools are more permanent in structure, the latter is not. While the former two are of the primary national type, with medium of instructions in Malay, the latter is a religious school

Block O is surrounded by coconut trees only the western side. The East, North and South are all sawah lands. These consist of Blocks H, J, K, P and V. This can be seen in the diagram of Sawah Sempadan given at the beginning of this thesis. Here are also shown the roads around the Block that are accessible by either heavy or light vehicles like the bicycle and scooter.

There are no Malays living in Block O. Most of them are people from Indonesia. They may be either of the first or second generation. All of them are Muslims. There is one mosque in Lot 3351, but it is no longer now in use.

There is a complete absence of poultry farms in the Block. None of the farmers reared any chickens or ducks on a large scale for the purpose of cash. The farmers also did not rear any animals like goats or cattle on a large scale. The absence of poultry farms and animal rearing it is felt, is not only a feature of Block O but is something which is common to the whole of Sawah Sempadan. The few chicken, ducks and animals that are left are mostly for home consumption or for feasts.

By way of comparison with the padi lands of Kedah, it was found that there are certain differences in the unit of land measurement and unit used for measuring padi in Sawah Sempadan. While the acre was used as a criteria of measurement of farm or ownership of holding by the farmers in Sawah Sempadan, in Kedah it is the relong that is in use. Two types of relongs are used: 1) Small relong and 2) large relong. While the small relong is 0.77 an acre, the large relong is about an acre. This large relong is common only south of Gunong Jerai. In the north the small relong is used. However, in the Land Office Records of Kedah, it is only the small relong that is used.

The farmers of Sawah Sempadan measure their padi output in a rather crude manner. They use kerosene tins and sacks. They had little knowledge as to how much padi a gantang could contain. Most of the farmers made the mistake of saying that one kerosene tin could contain 5 or 6 gantangs of padi. This is wrong. Only four gantangs can be put in one kerosene tin. In Kedah, the method of much more sophisticated and efficient. The farmers use the '<u>Kuncha</u>' and '<u>naleh</u>'. These farmers are well versed in the gantang equivalent of the <u>kuncha</u> and <u>naleh</u>.

It is surprising to note that the plough and buffaloes are not used in Sawah Sempadan. The farmers here only use the

'tajak' and 'changkul' for ploughing. However, in both these places, the tractor is being introduced. In Sawah Sempadan there were a few small 'Toyota' tractors being put to use at the time of the survey.

Furthermore, besides the use of fertilizer in Lot 3344 (this being an Agriculture Department test plot) none of the farmers in the Block used fertilizer of any kind. This is contrary to the situation in Kedah where nearly every farmer uses some fertilizer of some sort.

Comment on Schedule III: Approved Application of Land (Land Rule 5)

We shall deal with these conditions one by one.

Condition 1

It must be seen from two points of view.

(1) Dejure

(2) Defacto

If we were to check up the Land Office Records at Kuala Selangor it would be evident that there has been no violation of this condition. This is because the law says:-

(1) There can be no subdivision.

(2) That the Kampong lot and the Bendang cannot be held by separate entries in the Mukim Register.

However, defacto this is not thecase. In Chapter V on co-ownership we saw that fourteen lots inside the Block were subdivided into two or more sub-lots. This was because of either joint purchase, sale of a sub-lot or due to inheritance on the death of the owner.

Thus, though legally Section 50 or Section 101 of the land code are still in tact, defacto, that is not so.

No one owner can have ownership of either a Kampong lot or a Bendang Lot without a single entry in the Mukim Register. Both these lots must have only one entry. This is the second part of Condition One.

However, defacto, onwers have sold away either the Kampong lots or Bendang lots or they may have subdivided them amongst their children; it is even possible that these lots may have been sold in sub-lots until the whole lots were sold away.

Condition 2

This is about the only condition that has been fulfilled by the owner of the lots. No rubber trees are seen growing in either the Kampong or Bendang lots.

Condition 3

In 3(i) the Bendang land is 'to be solely used for the cultivation of wet rice'. There is no mention of site for building here. In condition 3(ii) it is seen that provision for the building of one or more homes is granted in the Bendang lot. Thus, it is implied that buildings can only be erected in the Kampng and none can be set up in the Bendang lot.

However, since there is no specific mentioning that houses cannot be built in the Bendang lot, it can be assumed that there has been no violation of the condition. But if this is so, than 41 residents stand guilty of residing on the Bendang lots.

Condition 4, 5 and 6

These are all connected to one another. Then gist is as follows:-

Any person wanting to lease or transfer his lot must treat both the lots as one single piece and all lease or transfers are only possible with the consent of the Ruler in Council.

It is yet be discovered how many owners have had applied for the fulfillment of this conditions. But from the way the lots have been subdivided, sold or purchased, it is evident that even this condition has not been abided by.

Suggestions

1) That a visit be made to the Land Office and the names of the owners of the lots he got from there first, instead of the going straight away into the Block and having the problem of finding out who the owners are. This would save much time and would also be to the convenience of the interviewer.

2) That it be made certain that the meanings of the terms used in the questionnaire are well understood by the interviewer.

3) That the interviewer be given some working knowledge of their respective Blocks. This can be derived by way of reading the exercises of former students who have already worked there.

4) Much criticisms can be levelled at the questionnaire used during the survey (Appendix A) However, this defect has been overcome by wording of a new questionnaire which is also attached (appendix B). It would be therefore much more to our credit ϕf Appendix B and not A is used in latter surveys of this nature.

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APPENDIX I

SAWAH SEMPADAN

BLOCK O

3331		*	O		3332			O	X	3333		*	O		3334		*b	*	O	X
3335		*	O		3336			O	X	3337			O		3338				O	
3339		*	O		3340		*	O		3341		*	O		3342			*	O	
3343		*	O		3344		*	O		3345			O	X	3346			*	O	
3347		*	O		3348		*	O		3349			O	X	3350			*	O	
3351	*a	*	O		3352		*	O		3353			O		3354			*	O	
3355		*	O		3356		*	O		3357		*	O		3358			*	O	
3359			O		3360		*	O		3361		*	O		3362			*	O	
3363			O		3364		*	O		3365			O	X	3366			*	O	
3367			O		3368		*	O		3369			O	X	3370			*	O	
3371			O		3372		*	O		3373		*	O		3374			*	O	
3375		*	O		3376			O		3377			O		3378				O	X
3379		*	O		3380			O		3381			O		3382				O	
3383			O		3384			O	X	3385			O		3386		*		O	
3387			O	X	3388			O	X	3389			O		3390				O	
3391		*	O		3392		*	O		3393			O		3394		*		O	
3395		*	O		3396			O	X	3397			O		3398				O	
3399			O		3400			O		3401			O		3402				O	
3403		*	O		3404			O	X	3405			O		3406				O	
3407			O		3408			O		3409		*	O		3410				O	
3411			O		3412			O		3413			O	X	3414				O	
3415		*	O		3416			O	X	3417			O	X						
3418		*	O		3419															

Key

a - Mosque
b - Majlis Ugama dan Is
Selangor
O - Cultivated
* - Dwelling
X - Unsurveyed

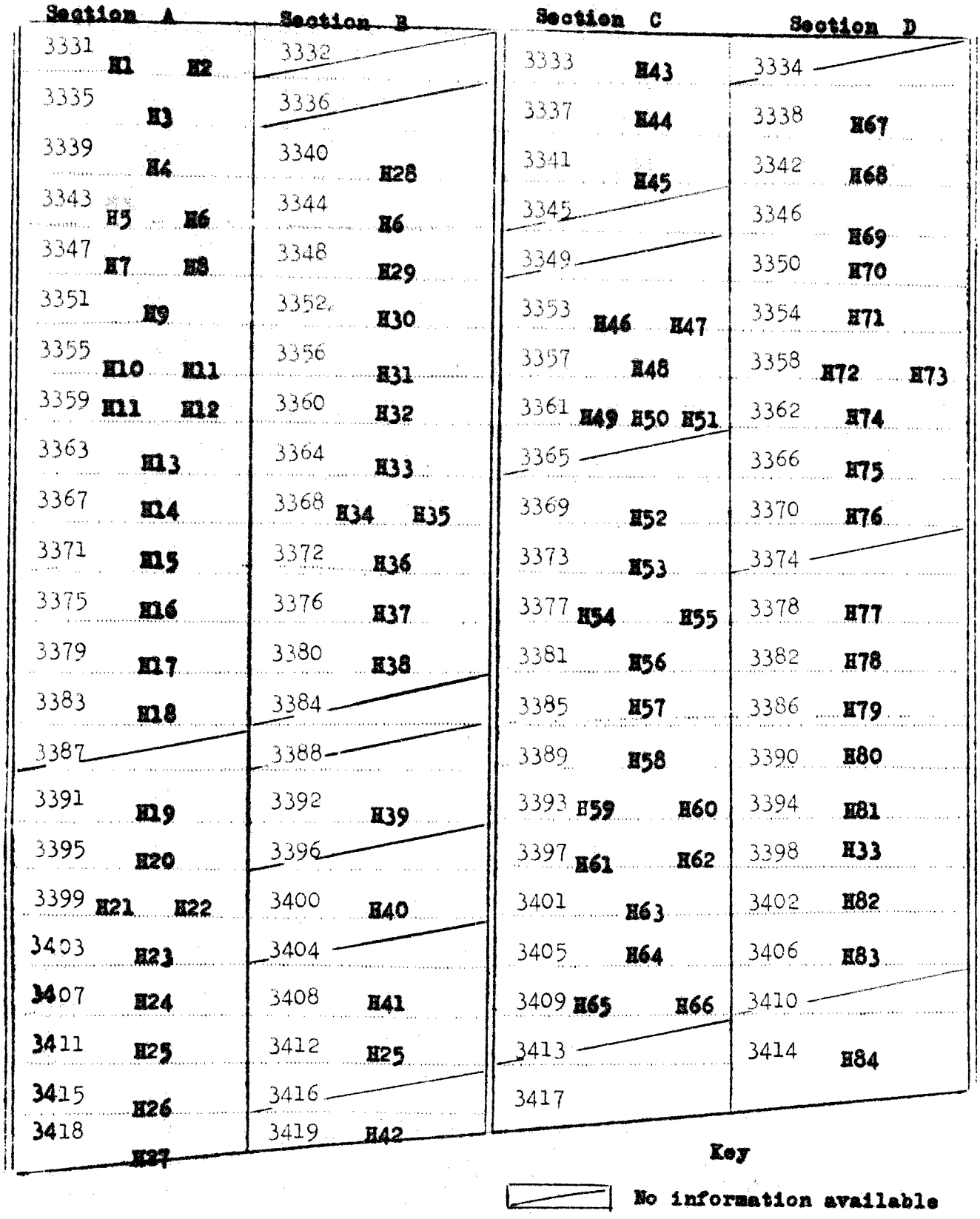
LOTS SURVEYED AND UNSURVEYED

Lots	Cultivated (89)	Uncultivated	Total (89)
With Dwellings	43	-	43
Without Dwellings	46	-	46
Total			89
No Information			16
Surveyed Lots			73

MAP I FOR HOLDINGS

SAWAH SEMPADAN

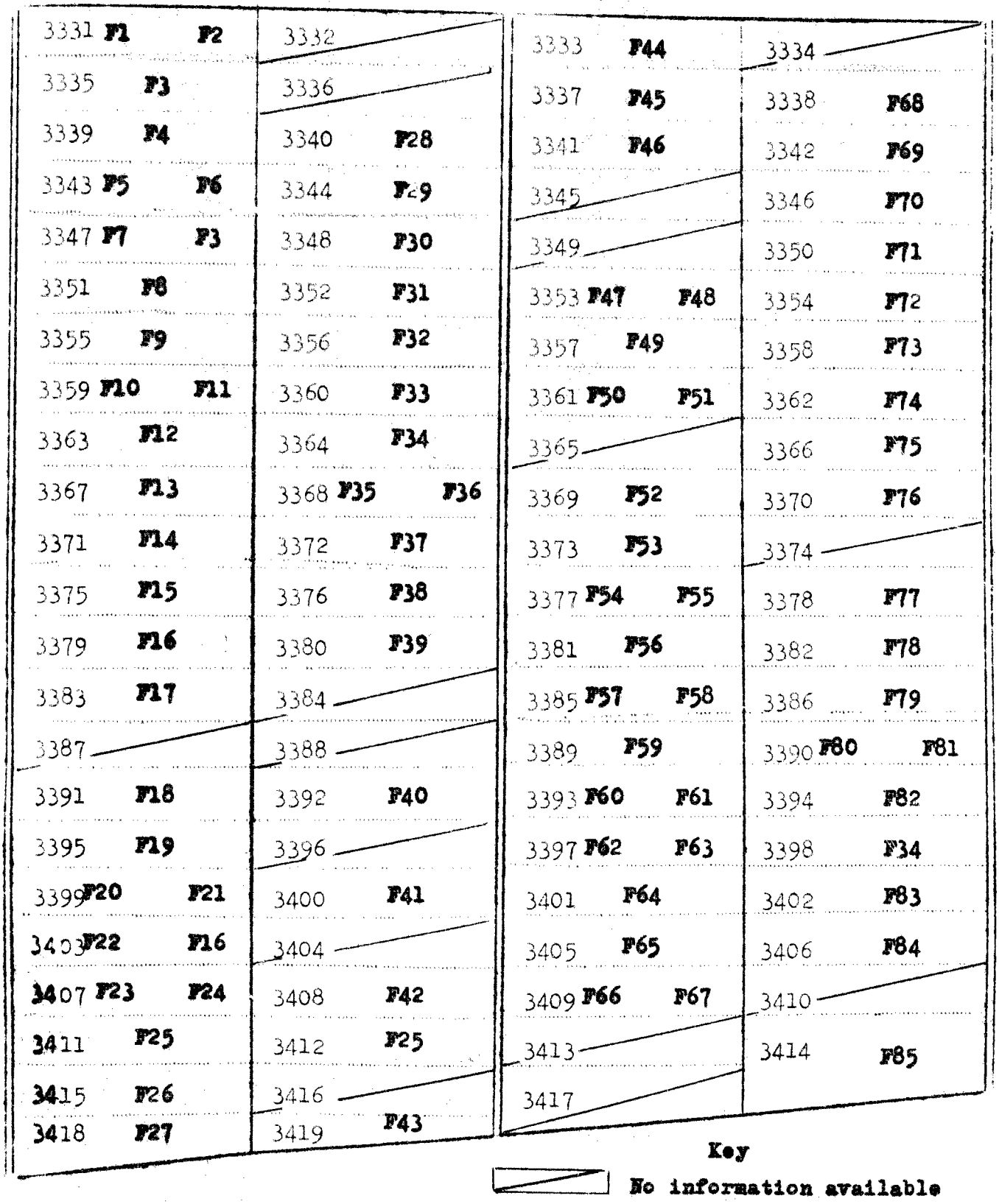
BLOCK O



MAP II FOR FARMS

SAWAH SEMPADAN

BLOCK O



Key

No information available

FRAGMENTATION OF HOLDINGS: INSIDE BLOCK
OUTSIDE BLOCK

No.	Holding No.	Lot in Block	Area (acres)	Lot Outside Block	Area (acres)	Total Area (acres)
1.	H5	3343	1.5	Block J	3.0	4.5
2	H7	3349	1.5	Block H	3.0	4.5
3	H9	3351	3.0	Sungai Siroh	1.0	4.0
4	H13	3363	3.0	S. T. K.	4.0	7.0
5	H14	3367	3.0	S. T. K. Batu 5	2.0 3.0	8.0
6	H15	3371	3.0	Batu 8	5.0	8.0
7	H19	3391	3.0	S. T. K. Batu 8	5.0 1.0	9.0
8	H20	3395	3.0	S. T. K.	1.0	4.0
9	H23	3403	3.0	S. T. K.	5.0	8.0
10	H24	3407	3.0	S. T. K.	2.5	5.5
11	H25	3411 3412	6.0	S. T. K.	7.5	13.5
12	H31	3356	3.0	S. T. K.	1.0	4.0
13	H33	3304 3305	6.0	Sungai Siroh Batu 7	2.0 5.0	13.0
14	H34	3308	1.5	S. T. K.	1.5	3.0
15	H35	3308	1.5	S. T. K.	1.5	3.0
16	H36	3372	3.0	S. T. K. -	1.0 1.0	5.0
17	H41	3408	3.0	S. T. K. Batu 8	1.0 5.0	9.0
18	H47	3358	1.5	Block P Batu 5	3.0 5.0	9.5
19	H54	3377	1.5	Batu 8	2.5	4.0
20	H55	3377	1.5	Batu 7	2.5	4.0
21	H56	3381	3.0	Batu 9	3.0	6.0
22	H57	3385	3.0	S. T. K.	5.0	8.0
23	H58	3389	3.0	S. T. K.	1.0	4.0
24	H60	3393	1.5	S. T. K.	1.0	2.5
25	H61	3397	1.5	Block H (32926) S. T. K.	2.0 3.0	6.5
26	H62	3397	1.5	S. T. K.	2.5	4.0
27	H63	3401	3.0	S. T. K.	5.0	8.0
28	H64	3405	3.0	S. T. K.	2.0	5.0

(cont.)

No.	Holding No.	Lot in Block	Area (acres)	Lot Outside Block	Area (acres)	Total Area (acres)
29	H68	3348	3.0	Bt.Bilimbing	1.5	4.5
30	H71	3354	3.0	Batu 9	1.0	4.0
31	H74	3362	3.0	Batu 4	5.0	8.0
32	H75	3366	3.0	Block P	1.5	12.5
				Batu 8	8.0	
33	H77	3370	3.0	Batu 9	1.5	7.0
				Batu 7	2.5	
34	H78	3382	3.0	Batu 8	5.0	8.0
35	H80	3390	3.0	Batu 6	5.0	8.0
36	H83	3400	3.0	S. T. K.	2.0	5.0
	Total		90.0		132.5	231.0

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TABLE 8

FRAGMENTATION OF FARMS: INSIDE BLOCK

OUTSIDE BLOCK

No.	Farm No.	Lot in Block	Area (acres)	Lot Outside Block	Area (acres)	Total Area (acres)
1	F6	3343	1.5	Block J	3	4.5
2	F7	3347	3.0	Block N	3	6.0
3	F8	3351	3.0	Sungai Sereh	1	4.0
4.	F12	3363	3.0	S. T. K.	4	7.0
5	F13	3367	3.0	S. T. K. Batu 5	2 3	8.0
6	F14	3371	3.0	Batu 8	5	8.0
7	F18	3391	3.0	Batu 9 S. T. K.	1 5	9.0
8	F32	3356	3.0	Sungai Sereh	1	4.0
9	F34	3364 3368	6.0	Sungai Sereh Batu 7	2 5	13.0
10	F42	3408	3.0	Batu 8	5	8.0
11	F48	3319	1.5	Block P Batu 8	3 5	9.5
12	F53	3373	3.0	Batu 7	1.25	4.25
13	F54	3377	1.5	Batu 8	2.5	4.0
14	F55	3377	1.5	Batu 7	2.5	4.0
15	F58	3381	3.0	Batu 9	3	6.0
16	F59	3389	3.0	S. T. K.	1	4.0
17	F60	3387	1.5	S. T. K.	1	2.5
18	F62	3397	1.5	S. T. K. Block N	3 2	6.5
19	F63	3397	1.5	S. T. K.	2.5	4.0
20	F65	3406	3.0	S. T. K.	2.0	5.0
21	F76	3345	3.0	Bt. Bilimbing	1.5	4.5
22	F77	3378	3.0	Batu 9 Batu 7	1 2.5	6.5
23	F78	3382	3.0	Batu 8	5	8.0
24	F84	3408	3.0	S. T. K.	2	5.0
Total			64.5		80 . 75	145.25

HOLDING LIST

Holding No.	Names of Owner	Lot in Block	Lot Outside Block O
H1	Hassan b.Hj.Dahalan	3331	-
H2	Hidol b.Hj.Dahalan	3331	-
H3	Md.Noor b.Hj. Sukor	3335	-
H4	Mustunan bt. Sukor	3339	-
H5	Sidek b. Nawawi	3343	Block J (3 acres)
H6	Hj. Abdul Rahman b. Surat	3343 3344	
H7	Surat b. Suradin	3347	Block N (3 acres)
H8	Taman b.Hj.Sukor	3347	
H9	Musleha bt.Ahaya	3351	Sungai Sireh (1 acre coconut)
H10	Hj. Abdullah	3355	
H11	Sanip b. Ahyat	3359 3355	
H12	Rohani b. Ahyat	3359	
H13	Hj.Mohd.b.Moh Alip	3363	Sungai Tinggi Kanan (4 acres - coconut)
H14	Hj.Bakar b.Mat Niman	3367	Sungai Tinggi Kanan(2 acres) Batu 5 (3 acres) - coconut
H15	Jamarn b. Shehar	3371	Batu 8 (5 acres - coconut)
H16	Hj. Iman b.Hj. Ali	3375	
H17	Sopiah b.Hj.Abd. Manan	3379	
H18	Juhir b. Asat	3383	
H19	Idris b. Dalimin	3391	Sungai Tinggi Kanan(5 acres) Batu 9 (1 acre)
H20	Panniran b. Mustari	3395	Sungai Tinggi Kanan(1 acre)
H21	Hj. Iman	3399	
H22	Hj. Abdul Salim	3399	
H23	Hj. Abdul Karim	3403	Sungai Tinggi Kanan(5 acres)
H24	Siti Katijah b. Saveiro	3407	Sungai Tinggi Kanan (2½ acres)
H25	Hj.Osman b. Kassan Ishak	3411 3412	Sungai Tinggi Kanan (7½ acres)
H26	Hj. Salleh b. Deriman	3415	
H27	Hj, Ali b. Yunus	3418	
H28	Shurib b.Travintana	3340	
H29	Hussain b. Kaspan	3348	
H30	Sallehan b.Mustaram	3352	
H31	Sarmon b. Ali	3356	Sungai Sereh (1 acre-maize, coconut)
H32	Hj.Mohd.Tahir b. Nartijan	3369	
H33	Hj. Tohab Narto	3398 3364	Sungai Sereh (2 acres) Batu 7 (5 acres - coconut)
H34	Kambli b. Osman	3368	Sungai Tinggi Kanan (1½ acres)
H35	Hapiah bt. Katib	3368	Sungai Tinggi Kanan (1½ acres)
H36	Moharam b.Md. Nasir	3372	Sungai Tinggi Kanan(1½ acre 2 mls.from main water-gate (1 acre)

H37	Kassim b. Nasir	3376	
H38	Mat Tamrin b. Kasan	3380	
H39	Satran b. Koran	3392	
H40	Kassan Pendek	3400	
H41	Saratin b. Basiran	3408	Batu 8 (5 acres - coconut) Sungai Tinggi Kanan (1 acre)
H42	Hussain b. Kassim	3419	
H43	Sardi b. Teco	3333	
H44	Ajib b.Hj.Tahir	3337	
H45	Katun b. Rustan	3341	
H46	Kaslan b. Bakar	3353	
H47	Seni b. Hj. Idris	3353	Block P (3 acres) Batu 5 (5 acres)
H48	Hj.Salleh b.Mustaram	3357	
H49	Sukaimi b. Koron	3361	
H50	Wahib b. Sukaimi	3361	
H51	Satiman bt.Sukaimi	3361	
H52	Karton b.Sulaiman	3369	
H53	Hj.Bolah b.Sidek	3373	Batu 7 (1½ acres)
H54	Hj. Osman b.Jayamstari	3377	Batu 8
H55	Hj. Abdul Rahman	3377	Batu 7 (5 acres)
H56	Karsiah bt. Harun	3381	Batu 9 (3 acres)
H57	Rosune b. Mustaffa	3385	Sungai Tinggi Kanan (5 acres)
H58	Hj.Marsuki b.Hassan Sahari	3389	Sungai Tinggi Kanan (1 acre)
H59	Ahmad b. Hasan	3393	
H60	Abdullah b. Moh Alip	3393	Sungai Tinggi Kanan (1 acre)
H61	Hj.Omar b.Hassan	3397	Block M 3926(2 acres) S.T.K. (3 acres)
H62	Hj.Abdul Gapor	3397	Sungai Tinggi Kanan (2½ acres)
H63	Hj.Jaimuddin b. Koron	3401	Sungai Tinggi Kanan (5 acres)
H64	Ramlan b. Md.Yadi	3405	Sungai Tinggi Kanan (2 acres)
H65	Chik bt. Mohd.	3409	
H66	Ahmad b. Md. Yadi	3409	
H67	Ajman b. Rahmat	3338	
H68	Hj.Samsuri b. Somoh	3342	
H69	Omar b.Hj.Marsuki	3346	Bukit Belimbing (1½ acres)
H70	Hj.Hassan b.Hj. Abd. Rahman	3350	
H71	Hj. Aksan b. Hj. Rahman	3354	Batu 9 (1 acre - coconut)
H72	Demom bt. Abdullah	3358	
H73	Hj. Zain	3358	
H74	Hj. Jalil	3362	Batu 4 (5 acres)
H75	Hj. Sanusi	3366	Block P, (1½ acres) Batu 8 (8 acres)
H76	Hj.Hassan b.Ahmad	3370	
H77	Misiran b. Dono	3378	Batu 9 (1 acre), Batu 7 (1½ acres)
H78	Saimo b. Dipo	3382	Batu 8 (5 acres)
H79	Hj. Mahsarb Turnsarsul	3386	
H80	Sairan b. Sidek	3390	Batu 6 (5 acres)
H81	Hj. Daud	3394	
H82	Abdullah b. Oja Chabitanah	3402	
H83	Mujri b.Hj.Omar	3406	Sungai Tinggi Kanan (2 acres)
H84	Robin b.Hj.Abd. Rahman	3414	

FARM LIST

Farm No.	Names of Farmer	Lot in Block	Lot Outside Block O
F1	Sidol b.Hj.Dahalan	3331	
F2	Sardi b. Sidek	3331	
F3	Taman b.Hj.Sukor	3335	
		3347	
F4	Mustanun bt. Sukor	3339	
F5	Sidek b. Nawawi	3343	Block J
F6	Hj.Abd. Rahman b. Hj. Surat	3343	
F7	Surat b. Suradin	3347	Block W
F8	Nusleha b. Ahaya	3351	Sungai Sireh
F9	Dahalan b. Yahaya	3355	
F10	Rohani b. Ahyat	3359	
F11	Senip b. Ahyat	3359	
F12	Hj. Mohd. b. Moh Alip	3363	Sungai Tinggi Kanan
F13	Hj.Bahar b.Mat Elman	3367	Sungai Tinggi Kanan,Batu 5
F14	Jamain b. Shehar	3371	Batu 8
F15	Hj. Iman b. Hj. Al	3375	
F16	Mastior b. Ahmad	3379	
		3403	
F17	Ismail b. Misbah	3383	
F18	Idris b. Dalimin	3391	Batu 9
			Sungai Tinggi Kanan
F19	Shaburi b. Panniran	3395	
F20	Kasran b. Koromph	3399	
F21	Hj.Abd. Salim	3399	
F22	Ismail b. Abd. Karim	3403	
F23	Md.Zahid b. Hj. Hassan	3407	
F24	Haslan b. Zain	3407	
F25	Hj.Osman b.Kassan	3411	
	Ishak	3412	
F26	Kamri b. Hj.Kasbullah	3415	
F27	Shuib b. Travintana	3340	
F28	Hj. Ali b. Yunus	3418	
F29	Mat Salleh b. Ahyar	3344	
F30	Hussain b. Kaspan	3348	
F31	Sallehan b. Mustaram	3352	
F32	Sarmos b. Ali	3356	Sungai Sereh
F33	Hj. Mohd. Tahirb Wartijan	3360	
F34	Hj. Toha b. Marto	3364	Sungai Sereh
		3398	Batu 7
F35	Hambli b. Osman	3368	
F36	Napiah b. Kalib	3368	
F37	Moharam b. Md. Nasir	3372	
F38	Kassim b. Nasir	3376	
F39	Mat Tamrin b. Kasan	3380	
F40	Sastram b. Koram	3392	Batu 8 (Cocoonut)
F41	Ghasali b. Ahmad	3400	
F42	Saratin b. Nasiran	3408	
F43	Siti bt. Ali	3419	
F44	Saidi b. Tgeo	3333	
F45	Shurib b. Savirana	3337	

Farm No.	Names of Farmer	Lot in Block	Lot Outside Block O
F46	Jaffar b. Hassan	3341	
F47	Kaslan b. Bakar	3353	
F48	Soni b. Hj. Idris	3353	
F49	Hj. Salleh b. Mustaram	3357	
F50	Sukaimi b. Koromo	3361	
F51	Wahib b. Sukaimi	3369	
F53	Hj. Dolah b. Sidek	3373	
F54	Hj. Osman b. Jayamstam	3377	Batu 8
F55	Hj. Abd. Rahman	3377	Batu 7
F56	Karsiah bt. Jarum	3381	Batu 9
F57	Hamsiah b. Kosmi	3385	
F58	Tabin b. Hashim	3385	
F59	Hj, Marsuki b. Hassan Shari	3389	
F60	Abdullah b. Moh Alip	3393	Sungai Tinggi Kanan
F61	Ahmad b. Hassan	3393	
F62	Hj. Omar b. Hassan	3397	Block M 3926 Sungai Tinggi Kanan
F63	Hj. Abdul Gapoor	3397	
F64	Hj. Jamuddin b.Koromo	3401	
F65	Rasulan b. Yadi	3405	Sungai Tinggi Kanan
F66	Chik bt. Mohd.	3409	
F67	Ahmad Md. Yadi	3409	
F68	Asmani b. Rahmat	3338	
F69	Hj. Samsuri b. Somoh	3342	
F70	Omar b. Hj. Marsuki	3346	Bukit Belimbing
F71	Hj. Hassan b. Hj. Abd. Rahman	3350	
F72	Hj. Yusoff b. Abd. Rahman	3354	
F73	Kassim b. Wahid	3358	
F74	Sayus b. Anapavir	3362	
F75	Bakir b. Hj. Tahir	3366	
F76	Hj. Hassan b. Ahmad	3370	
F77	Kisran b. Dorio	3378	Batu 9, Batu 7
F78	Saimo b. Dipo	3382	Batu 8
F79	Hj.Mansar b. Turn-varsul	3386	
F80	Hj. Abd. Rahman b. Dipo	3390	
F81	Hj. Abd. Rahman	3390	
F82	Afandi b. Parvi	3394	
F83	Abdullah b. Chabi-tamal	3402	
F84	Nujir b. Hj. Osman	3406	Sungai Tinggi Kanan (2 acres)
F85	Korman b. Makori	3414	

APPENDIX II

Phase III

T.K. S.S.:SURVEY OF LAND BY BLOCK

Lot No. _____ Block _____ Date _____ Place of interview _____

Farm _____ Holding _____ Interviewer _____ Interviewee _____

Land not cultivated 1963/4 [ ]

No interview because owner/operator cannot be located [ ]

Is there a dwelling on the lot? Yes/No _____

Owner of piece _____ Residence on land/other _____

Operator on piece _____ Residence on land/other _____

Who lives in the house? Owner/Operator/Other _____

Check whichever is relevant:

(a) Owner operates & lives on land [ ]

(b) Owner operates land BUT lives elsewhere [ ]

(if so state place of owner's house _____

(c) Operator lives on land but does not own the land [ ]

state rent paid to owner 1963/4 season _____

(d) Operator does not live on land & does not own land [ ]

state rent paid to owner 1963/4 season _____

. This is a case of co-ownership (check for Re-visit) [ ]

. This is a case of joint-operation (check for Re-visit) [ ]

0. Variety of padi planted 1963/4 _____

No padi planted 1963/4 [ ]

1. Quantity of padi harvested _____

method of harvesting tuai/sabit

12. Was the total harvested this year more/less/same as last year _____ (give quantities if possib

State explanation, if possible _____

_____

. Was there any pest/disease on this land which affected crop this year? _____

14. When crop was growing was water supply: (a) right time/too early/too late

(b) right amount/too much/not enough

coconut _____

Lot No. Block Date Place of Interview

Farm Holding Interviewer Interviewee

Land not cultivated 1963/4 [ ]

No interview because owner/operator cannot be located [ ]

Is there a dwelling on the lot? Yes/No _____

Owner of piece _____ Residence on land/other _____

Operator on piece _____ Residence on land/other _____

Who lives in the house? Owner/Operator/Other _____

Check whichever is relevant:

(a) Owner operates & lives on land [ ]

(b) Owner operates land BUT lives elsewhere [ ]

(if so state place of owner's house _____

(c) Operator lives on land but does not own the land [ ]

state rent paid to owner 1963/4 season _____

(d) Operator does not live on land & does not own land [ ]

state rent paid to owner 1963/4 season _____

. This is a case of co-ownership (check for Re-visit) [ ]

. This is a case of joint-operation (check for Re-visit) [ ]

0. Variety of padi planted 1963/4 _____

No padi planted 1963/4 [ ]

1. Quantity of padi harvested _____

method of harvesting tuai/sabit

12. Was the total harvested this year more/less/same as last year (give quantities if possib

State explanation, if possible _____

Was there any pest/disease on this land which affected crop this year? _____

14. When crop was growing was water supply: (a) right time/too early/too late

(b) right amount/too much/not enough

15. What other crops are grown on this land in 1964: bananas _____ coconut _____

fruit _____ kapas _____ mengkuang _____ maize (jagong) _____

keladi _____ tobacco _____

t document can you examine:

Title: type _____ Date _____ Date of issue _____

Name _____

Area _____ Land Office Rent _____

) Land rent receipt No._____ Date _____ Area_____ Land Rent $_____ Water R.$_____

) Other _____

) No document available /_____/

itle has not been transferred to present owner's name /_____/. date of purchase_____

oes owner own other pieces of land in:

Location of Land	Area	Crop	Rented out/in	Name of Operator

.S.Block_____No._____

.K.(non S.S.) Kampong_____Block_____ No._____

Non T.K.District_____Kampong_____Ref._____

Does owner operate other pieces of land in:

Location of Land	Area	Crop	Rented out/in	Name of Operator

S.S.Block_____No._____

T.K.(Non S.S.)Kampong_____Block_____ No._____

Non T.K.District_____Kampong_____ Ref._____

Does any member of owner's household own pieces of land:

Location of Land	Area	Crop	Rented out/in	Name of Operator

S.S.Block_____No._____

T.K.(non S.S.)Kampong_____Block_____ No._____

) Non T.K.District_____Kampong_____Ref._____

. Does any member of household (living in this house) own and/or (operate as tenant farmer) any land other than this piece:

As Owner

Location of Land	Area	Crop	Rented out/in	Name of Operator

a) In S.S.Block_____Ref._____

b) T.K.(non S.S.)Kampong_____Block_____ Ref._____

(c) Other districts:
District_____Kampong_____Ref._____

As Operator

Location of Land	Area	Crop	Rented out/in	Name of Operator

In S.S. Block_____Ref._____