UNIVERSITI PUTRA MALAYSIA

THE UTILIZATION OF UNUSED PADDY LANDS IN NEGERI SEMBILAN

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by

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ABSTRACT

Non-utilization of alienated paddy lands in Negeri Sembilan had posed serious problems to the State as well as the Federal Government. The State has approximately 36,456 acres of gazetted paddy land but only 43 per cent of the area are cultivated and utilized for paddy while the remaining 57 per cent are left idle. The broad objectives of this study are (1) to determine the factors, both economic and non-economic, that influenced farmers' decisions to leave their paddy lands idle, and (2) to formulate an alternative land use strategy within existing resource constraints.

By means of logit analysis, it was revealed that shortage of labour, ldw productivity of paddy land, high off-paddy farm income, shortage of water supply and multiple land ownership were the significant variables that influenced farmers' decision to abandon their paddy lands.

A linear programming analysis, which was used to formulate the alternative land use strategy, indicates that the idle paddy lands can be economically utilized with the available resources and Government assistance. The plan as a whole advocates the adoption of an activity mix comprising of chillies, greanpeas, maize or sugarcane cultivation and the raising of cows or freshwater fish. The actual activity mix depends mainly on the acreage to be operated.

The stability of the linear planning model was tested through a sensitivity analysis and it was established that the linear planning model was practical, stable, financially and economically feasible to the paddy farmers.

The study recognises the potential problems that may arise from increased production of the selected commodities if the plan were to be implemented. Hence, it is recommended that further research be undertaken in the area of marketing and processing to complement the above study.

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CHAPTER 1

INTRODUCTION

The importance of rice in the life of the great majority of Asians, needs no emphasis. For most of them rice is their staple food. The whole population of Malaysia practically consumes rice despite the fact that in 1979, Malaysia produced merely 85 per cent of its domestic requirements while the balance was imported from China and Thailand (Economic Report, 1979, p.109).

In Peninsular Malaysia[1] rice or paddy cultivation is only next to rubber in terms of acreage and labour utilization. It occupies approximately 17 per cent of the total cultivated land involving about 20 per cent of the economically active population. However, it contributes only five per cent to the gross domestic product (Third Malaysia Plan 1976-1980, p.119).

The total acreage of land under paddy cultivation in the country is about 1.5 million acres[2] (Ministry of Agriculture, 1978, p.183). Most of the paddy areas are located within 50 miles of the major rivers especially in Kedah, Kelantan, Perak, Selangor and Trengganu. However, paddy is also being cultivated in scattered areas in the states of Johore, Negeri Sembilan and Pahang (Figure 1).

[1] Unless otherwise stated subsequent reference to Malaysia refers only to Peninsular Malaysia.

[2] This acreage includes both the main season and off-season crops of wet and dry paddy as shown in Table I.

FIGURE 1 PADDY GROWING AREAS, PENINSULAR MALAYSIA

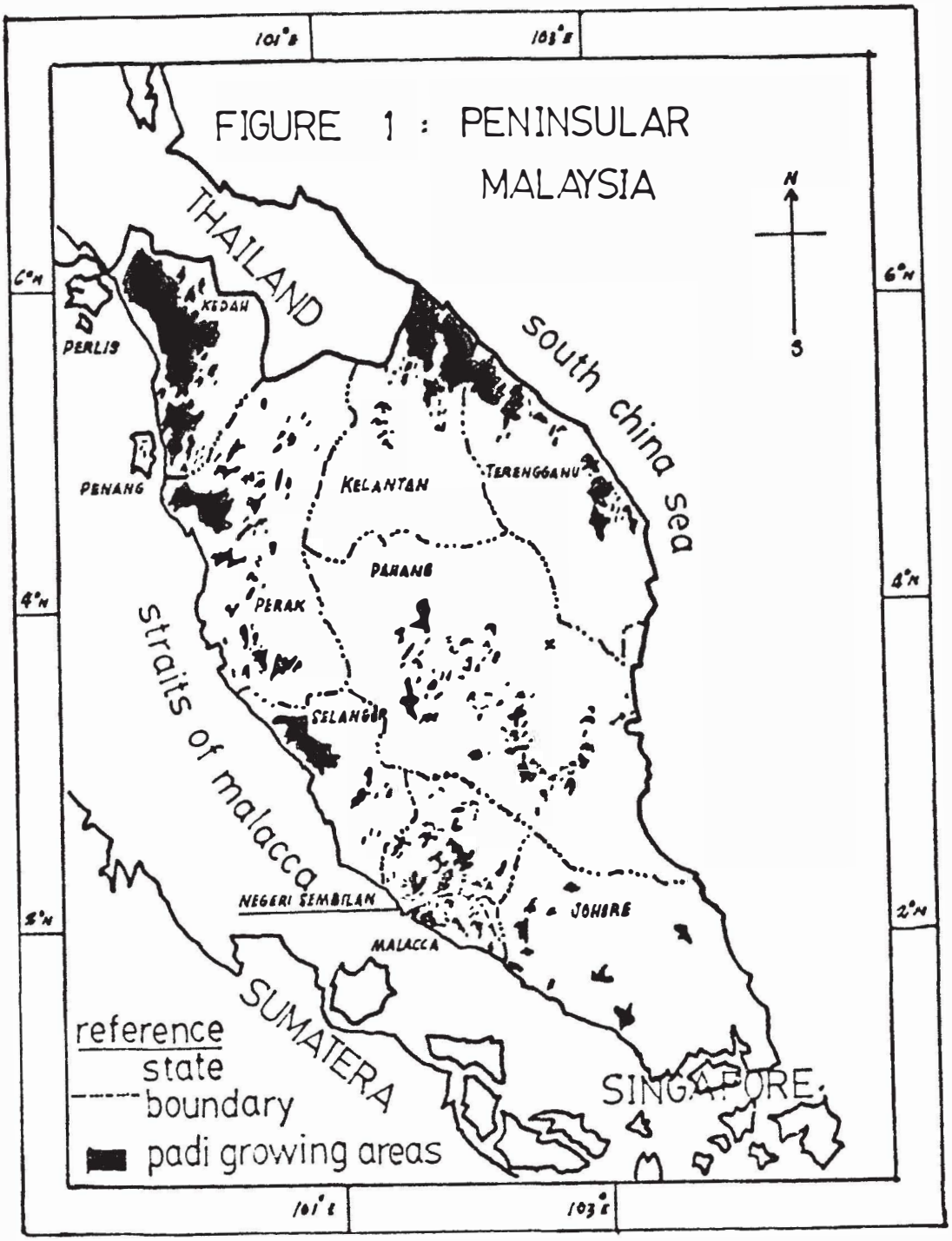

Table I shows the distribution of land under paddy by state in Peninsular Malaysia. As shown in the table, the total area in Kedah and Kelantan alone accounts for approximately 52 per cent of the paddy acreage. In these two states, paddy occupies more than 45 per cent of the total land area utilized for agriculture.

Table I also shows that 62.5 per cent of the paddy areas are utilized for the main season wet paddy, 35.8 per cent for the off-season wet paddy and 1.7 per cent for dry paddy. There has been very little increase in paddy acreage during the past 10 years for both the wet paddy main season crop and dry paddy. The main increase has generally come from the off-season crop due to increases in the double cropping areas.

In general paddy is being cultivated in small farms. The average farm size ranges from half an acre to five acres. Table II provides the size distribution of paddy farms by state. As shown in the table, paddy farms in the States of Perlis, Kedah and Selangor are comparatively larger than those in the other states. In these states the average farm size is at least 3.6 acres. The average paddy farms in the States of Johore, Negeri Sembilan and Pahang are generally below 2 acres. Negeri Sembilan has the lowest farm average of 1.1 acres.

As shown in Table I, the total area for all crops in Peninsular Malaysia is approximately 8.6 million acres. However, more than a million acres or approximately 12 per cent of the total acreage are

TABLE I DISTRIBUTION OF ACREAGE UNDER PADDY BY STATE, 1975

States	Acreage under all crops[2]	Acreage Under Paddy		Acreage of Paddy Planted		
		Acres[1]	%	Main Season	Off Season	Dry Paddy
Johore	1,907,008	14,190	0.7	9,030	5,160	-
Kedah	1,063,040	524,260	49.3	293,270	226,880	4,110
Kelantan	634,560	247,730	39.0	173,550	67,500	6,680
Malacca	318,581	34,540	10.8	27,910	6,630	-
Negeri Sembilan	652,024	35,790	5.5	18,880	16,910	-
Pahang	1,138,483	59,650	5.2	49,270	4,270	6,110
Penang	182,037	77,980	42.8	38,000	39,980	-
Perak	1,272,967	182,140	14.3	199,750	60,350	2,040
Perlis	124,463	98,930	79.5	65,630	33,000	300
Selangor	844,249	100,110	11.8	50,510	49,600	-
Trengganu	439,197	95,270	21.7	73,910	16,620	4,740
Total	8,576,609	1,470,590	17.1	919,710	526,900	23,980

Source: 1 Ministry of Agriculture, Statistical Digest 1975, Kuala Lumpur, 1978

2 I.F. Wong, The Present Land Use of Peninsular Malaysia 1975, Ministry of Agriculture, Kuala Lumpur 1979.

TABLE II SIZE DISTRIBUTION OF PADDY FARMS IN PENINSULAR MALAYSIA BY STATE, 1972

States	Average paddy farm size (acres)	Percentage of Paddy Farm Size (in acres)							
		Below 1 acre	1-1.99	2.9-2.99	3.0-3.99	4.0-4.99	5.0-7.49	7.50-9.99	10 and above
Johore	1.5	5	60	27	3	3	2	0	-
Kedah	4.0	8	19	18	12	10	20	6	6
Kelantan	2.3	8	26	32	16	10	7	1	0
Malacca	2.1	21	32	24	7	6	7	2	1
Negeri Sembilan	1.1	45.7	22.5	17.4	8.6	3.0	2.8	0	0
Pahang	1.7	16	38	26	11	6	3	1	0
Penang	2.5	9	31	23	13	11	11	2	0
Perak	2.6	14	26	19	12	9	15	4	1
Perlis	4.1	3	11	19	16	13	25	8	5
Selangor	3.6	3	14	5	40	13	18	5	2
Trengganu	2.3	14	23	29	11	10	10	3	0
Peninsular Malaysia	3.1	10	23	21	14	10	15	4	3

Source: Selvadurai, Padi Farming in West Malaysia, 1972.

left idle. About 30 per cent of the idle agricultural land had been found to consist of those alienated for paddy (Ministry of Agriculture, 1979, p.6).

Non-utilization of alienated agricultural lands has posed a serious problem to the Government as substantial amount of potential revenue had been lost.[1] In the State of Negeri Sembilan the problem of idle paddy lands is very acute. The State has approximately 36,456 acres of gazetted paddy land and only 15,672 acres of the land have been cultivated and utilized for paddy. This implies that 20,784 acres or 57 per cent of all the gazetted paddy land are left idle (Table III). If all the paddy land in the State were to be fully cultivated an estimated 14 million gantangs of paddy would have been produced.[2]

The problem of idle paddy lands in Negeri Sembilan or in Malaysia, in general, has not been empirically examined. This study will attempt to examine the problem with a view of identifying its causes and to suggest alternative uses of the idle land.

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[1] Losses in potential revenue include the non-payment of Quit Rents and irrigation water rates by the farmers, reduction in agribusiness activities and paddy production.

[2] Based on at least a single crop of paddy at an average yield of 387 gantangs per acre.

TABLE III PADDY LANDS IN NEGERI SEMBILAN, BY DISTRICT, 1978

District	Total available paddy land (acres)	Paddy land currently being utilised (acres)	Idle paddy land (acres)[1]
Rembau	7,260	2,525	4,725
K. Pilah	16,554	6,850	9,704
Jelebu	3,790	2,305	1,485
Tampin	2,663	1,468	1,195
P. Dickson	1,058	387	671
Seremban	5,131	2,127	3,004
Total	36,456	15,672	20,784

Source: Department of Agriculture, Penyata Keluasan Sawah-Sawah Negeri Sembilan (Mimeograph), January 1979, Seremban.

[1] The definition of idle paddy land is based on the Ministry of Agriculture, Laporan Tanah-Tanah Terbiar (1979 p.2) which specifies that all paddy lands unutilized for three years or more are considered abandoned land. The basis for the selection of the three years benchmark is to be consistent with regulations stipulated in National Land Code, 1965 and the Paddy Cultivators (Control of Rent and Security of Tenure) Ordinance, 1955.

Objectives of Study

The main objectives of this study are:

(1) To examine factors that contribute to the non-utilization of the paddy lands in Negeri Sembilan.

(2) To suggest an alternative land use for the paddy lands within the framework of present constraints.

Organisation of Study

Chapter 2 will attempt to provide an understanding of the resources that are available in Negeri Sembilan. Chapter 3 will provide an insight into the methodology and some of the theoretical concepts associated with the mathematical models in the study. Factors that are thought to be contributing to the non-utilization of the paddy land will be discussed in Chapter 4. Chapter 5 provides the optimal solutions to the Linear Programming model. To assess the stability of the optimal solution provided by the Linear Programming model, a sensitivity analysis will be discussed in Chapter 6. Chapter 7 contains a summary, conclusions and recommendations for future research.

CHAPTER 2

RESOURCES OF NEGERI SEMBILAN

The State of Negeri Sembilan is located in the south western part of Peninsular Malaysia, lying between latitudes 2° 23' N and 3° 10' N, and longitudes 101° 42' E and 102° 43' E. It is bounded in the north and northeast by the State of Pahang in the west and northwest by the State of Selangor, and in the south by the State of Malacca (Figure 2).

The State essentially has an equatorial climate with no distinctly marked seasons. The daily temperatures are in the range of 78°-89° F, and relative humidity is around 96 per cent. Negeri Sembilan is one of the states that receive an annual rainfall below 100 inches.

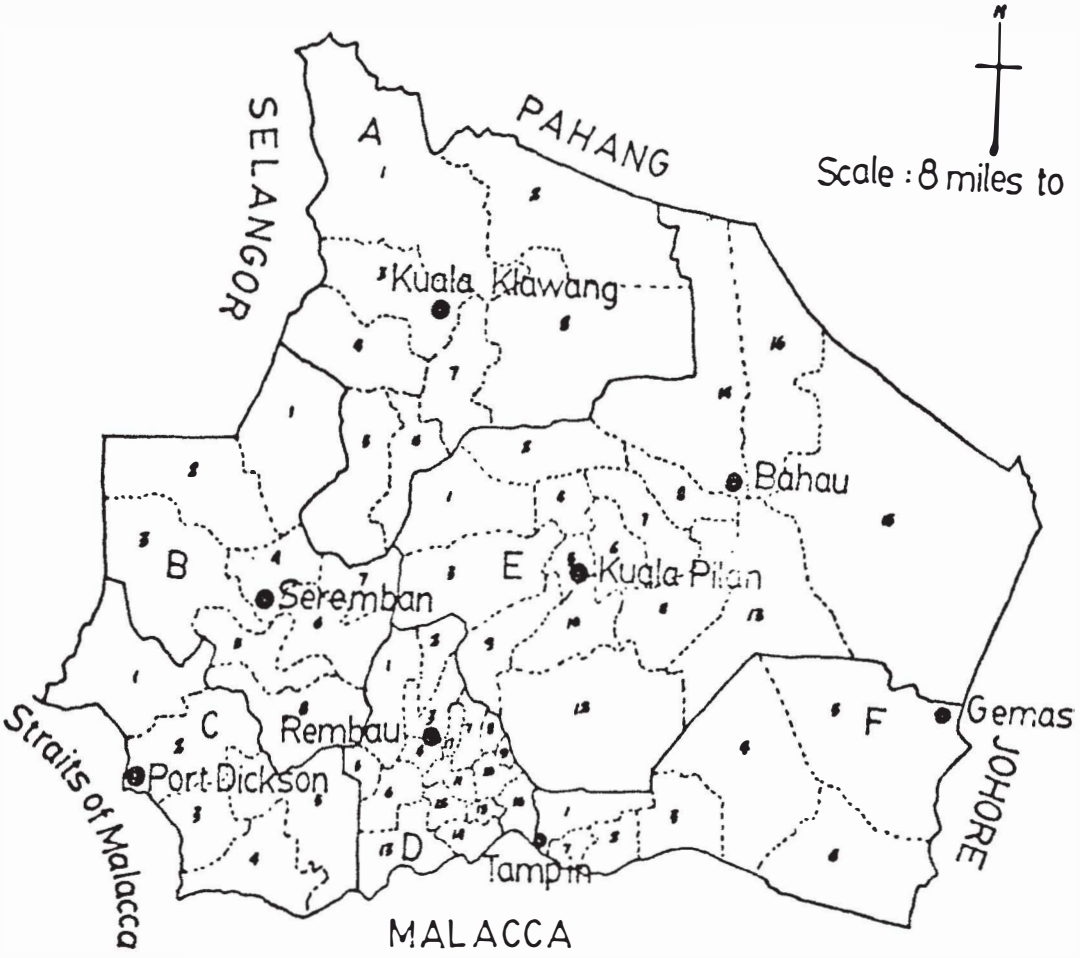
There are altogether six districts in the State. Each of the districts is further sub-divided into smaller administrative units or mukims (Figure 2). There are 61 such mukims within the State (Table IV).

Table IV also shows that the State has a total land area of approximately 2,573 square miles (or 1,646,919 acres). The estimated total population is 481,491 persons, with approximately 62 per cent living in the rural areas engaged mostly in agricultural activities.

Land Use Pattern

Agriculture and forestry are the two dominant forms of land use in the State. Agriculture occupies the coastal plains and the foothills

FIGURE 2 : THE POLITICAL BOUNDARIES OF NEGERI SEMBILAN



PARTICULARS OF DISTRICT

A - JELEBU

MUKIM :-

1. KENABOI
2. TRIANG ILIR
3. GLAMI LEMI
4. ULU TRIANG
5. ULU KLAWANG
6. KUALA KLAWANG
7. PERADONG
8. PERTANG

C - P. DICKSON

MUKIM :-

1. JIMAH
2. PORT DICKSON
3. SIRUSA
4. PASIR PANJANG
5. LINGGI

E - KUALA PILAH

MUKIM :-

1. LENGKAP
2. ULU JEMPOL
3. TERACHI
4. PARIT TINGGI
5. AMPANG TINGGI
6. ULU MUAR.
7. JUASEH
8. KUALA JEMPOL
9. SRI MENANTI
10. PILAH
11. KEDIL
12. JOHOL
13. USLOI
14. SERTING ULU
15. RANTAU
16. SERTING ILIR

B - SEREMBAN

MUKIM :-

1. LENGGENG
2. SETUL
3. LABU
4. SEREMBAN
5. RASAH
6. AMPANGAN
7. PANTAI
8. RANTAU

D - REMBAU

MUKIM :-

1. PEDAS
2. SPRI
3. CHEMBONG
4. BATU KIKIR
5. KUNDOR
6. DUSUN
7. SUISMAK
8. MIKU
9. BONGEK
10. CHENGKAU
11. KERASAU
12. LEGONG ILIR
13. TITIAN BINTANGOR
14. GEMEREK
15. LEGONG ULU
16. GADONG
17. TANJONG KLING

F - TAMPIN

MUKIM :-

1. REPAH
2. KERU
3. TEBONG
4. GEMENCHEH
5. OSMAS
6. AYER KUNING
7. TAMPIN TENGAH

REFERENCE

— State Boundary
— District Boundary
● Main Towns
---- Mukim Boundary

TABLE IV POPULATION AND LAND AREA IN NEGERI SEMBILAN

	No. of Mukim	Land area in sq. miles	Land acreage	Total cultivated area (acres)	Total population	Estimated n.. of farm families	Total rural population
K. Pilah	16	956	611,840	400,249	115,434	20,470	102,350
Jelebu	8	528	337,920	92,749	32,868	5,945	29,725
Seremban	8	367.3	235,072	173,358	168,948	15,845	79,225
Tampin	7	339	216,960	123,154	48,156	5,065	25,325
P.Dickson	5	223.1	142,784	116,179	76,244	5,373	26,865
Rembau	17	159.9	102,343	82,595	39,841	7,253	36,595
Total	61	2573.3	1,646,919	988,284	481,491	59,951	299,755

Source: State Department of Agriculture: Perangkaan Asas Pertanian Negeri Sembilan, 1978.