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FRAGMENTATION OF PEASANT LAND IN MALAYSIA: TRANSMISSION MECHANISMS AND ROLE OF INSTITUTIONS

Haniza Khalid[*]

ABSTRACT

The paper discusses aspects of traditional informal credit system and inter-generational land transfers and how they affect landholding structure in the Malaysian rural areas.The formal and informal institutions that supported them inevitably produce various layers of transaction costs and market imperfections in the peasant land market; such that land fragmentation is often the most rational and convenient outcome for the peasant household.The implication of this micro-level decisions is apparent in the pattern of land-use and land values that Malaysia sees today.In its entirety, the paper should be useful in allowing one to map the right questions to explain today's agricultural land market while answering yet others such as why current policy measures, in particular those relating to agriculture, fail to effectively address the issue of land fragmentation and decline in agricultural production and hectarage.In addition, we argue that challenges to preservation of economic land sizes vary depending on the land ownership structure i.e. private holdings, group agrarian schemes, land settlement schemes, etc.

Keywords: Land Fragmentation, Land Ownership and Tenure, Agricultural Institutions, Land Inheritance

Introduction

Land is central to food security, social welfare and identity of the people. The value of land is one that is more than the sum of the buildings, livestock or plants on the land. A truly constructive economic analysis of land price cannot afford to ignore local conditions with respect to past and current land use and tenure systems, social hierarchies, cultural philosophies and preferences, and local population dynamics. Methods by which the market and institutions for land work to allocate land to different uses often generate outcomes that are beyond the usual descriptions of the neo-classical demand

[*]Department of Economics, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia. Email: hanizamv@iium.edu.my

and supply. Many of the transaction costs and market imperfections evident in a land market are in fact enduring legacies of institutions and systems in the past. On the other hand, contemporary land-use planning functions of the State, widely employed to address market failure, inadvertently segments the land market via the fixation of total land supply for specific uses.

The paper seeks to examine the transformation of the Malayan land market to what it is today, in particular the problem of fragmentation of peasant landholdings. Torrens Land Law introduced by the British helped generate a new notion of land as an economic asset. Subsequently, the land titling system interacts with informal credit and land inheritance systems of the Malays as well as post-colonial institutional structures to create additional layers of transaction costs and market imperfections in the peasant land market. These indirect legacies of institutions continue to have enduring influences, most apparent in the pattern of land-use and prices that we see today. In addition, the analysis will help describe the important milestones in the country's land-use policy and how various categories of agriculturalists are formed. This will be followed by a critical analysis of formal and informal institutions which are instrumental in shaping the market for agricultural use as it is today. In its entirety, the paper should be useful in allowing one to map the right questions to explain today's agricultural land market while answering yet others such as why current policy measures, in particular those relating to agriculture, fail to effectively address the fragmentation of land and decline in agricultural production and hectarage.

Land Tenure: A Historical Overview

Malaysia is a relatively small country with a total land area of 329,750 square kilometres. Peninsular Malaysia, which is the geographical focus of the thesis, takes up less than half of the total land area at 132,090 square kilometres. Malaysia is a federation of nine Malay States, two former Straits Settlement States and three federal territories in the Peninsular and two States in the Borneo Island. Hence, it should not be surprising that Malaysia's land use pattern varies a great deal across the regions, as a result of the different socio-political history as well as the varying levels of development pressures in each area. Out of the total land area in Peninsular Malaysia, an estimated 11.3 million hectares or 34.5 per cent falls under Class I to Class III categories of soils which are suitable for agriculture.

The section will trace a number of important milestones in Malaysia's history that directly or indirectly influenced peasant land tenure systems. It will also reveal how dualism in the agricultural sector evolved. Today, private large-scale plantations, whose modern approaches to production have helped to create the country's initial wealth base in the past, still exist alongside the smallholders who form the majority of the agricultural population and traditionally make up the country's political base. The smallholder category can be further broken down to three different groups of farmers: (i) independent smallholders operating on their own land under low capital and low technology modes;

(ii) land settlers operating on land owned by group settlement schemes; and (iii) farmers cultivating State land on short-term basis via renewable licences. To understand how the categorisations evolved and their implications, this section will bring us on a journey back to pre-colonial Malay territories and eventually ends in modern Malaysia.

Malay States: The economy of the Malay Archipelago is historically more dependent on its trading activities than on agriculture by virtue of its strategic location in the Eastern spice market. As a result, the Malay customary land system is primarily based on subsistence agriculture. Despite this, there were simple but sufficient laws well in place to protect security of tenure and other aspects of land use, as described by various historical documents in particular the Kanun Melaka.Typically,land was appropriated to whomsoever willing to undertake the clearing and cultivation of land on a continuous basis i.e., "menghidupkan tanah" (give life to the land). It follows that an individual's claim to land can be rescinded if he ceases to cultivate the land over an extended period of time, as the situation implies that he must then be in control of more land than he needs to support himself and his family. However, the system does allow the hiring of farm labour and share cropping, particularly during the harvest seasons.

Major crops at the time were rice, either the wet or dry (or hilly) variety. Usually, a tenth of the land's yield is paid to the territorial chiefs as tributary payments. However, these payments were not designed as compensation for land use; rather they represent payment for protection and to symbolise the farmers' allegiance to the Village Chief or Ruler. However, as Wan Hashim wrote (1988, p. 52).

"As land were plentiful, and the ruler and the district or territorial chiefs did not have powerful armies of their own to keep the subject class (peasants) intact or tie them to the soil, dissatisfied peasants could always move on to another area to seek the protection of a more reasonable chief."

The fluidity in the population means that a young family or a newcomer to the society has merely to ask the village head for land and he will be directed to abandoned land plots in the village or to the jungle fringe where he can carve out a new plot of land to start a new life in the community (see Yusuf, 1989). This unique usufruct system means that land is not collectively-owned as in other Asian cultures. Each usufructuary utilises separate plots of land sufficient to feed itself and save some amount of surplus for bad weather. The notion of capital and surplus accumulation, in the form of land, was entirely alien to the society since the usufruct rights did not include right to sell the land (alienation rights), although the farmer can lease or prohibit others from using his land.

British Malaya (1874 – 1957): This period is particularly important because it represents a phase of transition from the traditional self-sustaining economy to a market-based economy. By the late 19th century, all of the nine States in the then Malaya (except Penang, Malacca and Singapore which were already under direct British rule and were called Strait Settlements) eventually came under British political and administrative control through the Residential System (in Federated Malay States) and the Advisory System (in the Unfederated Malay States). Although each of the Malay States already had a strong and well-functioning system of property rights, the British colonial government found the lack of well-defined land boundary system to be troubling, and considered a more European-based land system to promote its ability to regulate future ownership, control, land-use and taxes. In order to make way for the proposed land reform, the British's concept of 'crown land' must be introduced; all lands were declared as belonging to the respective Sultans and by default controlled by the then British-appointed State administrators. Beginning in 1879, two types of leaseholds were introduced, leasehold in perpetuity and leasehold for a fixed period (initially not exceeding 999 years).This land titling system, which is named after Robert Torrens, rests on the principle that rights to land are recorded through registration of titles - the owner of the land is established by virtue of his name being on the centrally-organised land register. Rights to new land can no longer be founded on occupation and use as in the traditional system. Owners of small land parcels (mostly the Malay peasants) were asked to register their holdings at the local Mukim district offices, while owners or larger land units registered their holdings at the State's Land Registry office – the technical cut-off size of land being 0.47 hectares between the two levels of land registry. Since the Malay peasants only registered land that they were occupying for dwelling and peasant farming purposes at the time of the system's introduction, their land sizes were typically very small and the locations were very near to existing villages.

In one swift stroke, land became a marketable commodity (via the land title document) with an exchange value that could be pegged to the market. Malaya's vast tracts of lowland tropical rainforest, particularly in the western coastal States were quickly alienated to European interests and to a smaller extent, the Chinese investors to create company-managed plantations. Li (1982, p.83-85), wrote in his 1952 thesis on Malaya's colonial economy about the implications of the new land system,

"About 1890, (Sir Hugh Low, Perak's British Resident) later distributed these rubber seeds among the planters and at about the same time the governments of the Federated Malays States offered blocks of land of 1,000 acres apiece to planters who could introduce a permanent cultivation. By the turn of the century, the Malayan governments, in order to encourage capitalists to invest money in rubber, adopted a very liberal policy in regard to granting land for cultivation. It was provided that there would be no limit to the amount of land that could be held and that the land would be sold at a very low figure to encourage cultivation...There was to be no land taxation but all rights to minerals underneath the land were vested in the state…At the end of 1926 the total Malayan rubber-planting acreage was about 2,250,000 acres, more than half of the total world acreage."

The land policies of the time were structured to encourage maximum return from prime agricultural land. For example, according to the law, tracts of land with road frontage cannot be subdivided. This indirectly prevented the capital-poor Malay rubber planters from acquiring lands with good accessibility from the European or Chinese land-owners. By the middle of the 19th century, the Malayan colonial economy was overwhelmingly private sector-driven and dependent on exports of rubber and tin (refer to Table 1).

Table 1: Exports by Commodity for Federation of Malaya 1956

Commodity	Value (RM million)	Percentage
Food, Beverages and Tobacco	99.5	4.4
Coconut and Copra	59.4	2.6
Crude Palm Oil and Kernel	48.5	2.1
Rubber (all types)	1,378.1	60.1
Timber	32.1	1.4
Tin (all types)	471.7	20.8
Iron Ore	51	2.2
Other Commodities	123.7	5,5
Total	2,264	100

Source : Annual Report, 1957 from Li (1982).

The British had been acutely aware of the importance of rice cultivation to supply local (Malay) and immigrant (Chinese and Indian) communities with their staple food. Malay rice farmers, whose numbers are falling as many shifted to small-scale rubber-planting, were producing just enough to cover their own needs and rental costs (if its share-cropping land) but not much else. The availability of cheap foreign supplies of rice was distressing local farmers' profit margins anyway. Chinese traders were given a monopoly in rice import and distribution activities. With abundant supply of rice from Burma and Thailand, price of local rice was driven down to only 1.80 ringgit per pikul (equivalent to 62.5kg). Li wrote that (1982 p. 162),

"As late as 1949, Malaya became the second-largest rice importing country in Asia second only to India, and importing more than as much as China did in the same year..."

In addition, the traders were also able to set up rice mills in the rural areas, which contributed to their strong domination of the peasant credit system. All these factors combined adversely affected the Malay rural farmers. By the 1950s, the government introduced a Guaranteed Minimum Price (for rice) and irrigation projects for rice sector, as well as credit cooperatives to solve their credit woes. In addition, a Colonial Welfare and Development Fund was set up to promote capitalism in Malay peasant economy through technical and capital support (Li, 1982). However, these measures were not sufficient to stem the rise of poverty and landlessness in the rice sector.

Independence and Agrarian Reforms: By the time Malaya achieved her independence in 1957, it became quite obvious that the spill-over effects from the prosperous export sector were not well-spread out. Development had been mostly centred in the rubber plantations, tin mines and urban areas while the traditional, more labour-intensive, small-scale rice, coconut and fishing sectors remained backward. Malays continued to form the poorest section of the population, but at the same time were the most politically vocal. Table 2 shows that between 1950 and 1955, public allocation for social services (RM80,000) was only around one-tenth of the financial support allocated to strengthen infrastructure and export-based agriculture (totalling RM746,000). Social services involved education, housing, welfare and village development. However, in the following five-year plan, social expenditure allocation increased by more than one and a half times to RM213,000, mainly to fund government's anti-communist campaign. Not much was done to assist the Malay rural population, whose economy continued to be characterised by uneconomic farming units and low agricultural returns (Aziz, 1964). The Malayan 1960 Agricultural Census shows that close to 60 per cent of all farms were less than four acres, whilst over 90 per cent were less than 10 acres. With respect to paddy lands, 54 per cent were less than 2.75 acres while 97 per cent were smaller than 10 acres, whereas 80 per cent of the paddy land were tenant-operated.

Table 2: Changes in Sectoral Allocation of Public Expenditure in Malaysia's Five-year Plans (in nominal RM'000)

Five-year Plans	1MaP	2MaP	3MaP	1MP	2MP	3MP	4MP	5MP	6MP	7MP	8MP
Period	1950-1955	1956-1960	1961-1965	1966-1970	1971-1975	1976-1980a	1981-1985a	1986-1990a	1991-1995a,b	1996-2000	2001-2005
Economic											
Agriculture	189	265	543	1,087	2,370	6,488	7,992	7,427	9,019	5,460	7,860
Infrastructure	577	513	906	1,539	3,373	7,739	10,278	8,208	10,832	15,730	21,965
Industry	-na-	16	27	85	1,608	4,256	6,595	3,981	5,752	5,864	10,295
Others											
Social	80	213	491	975	1,431	5,495	10,340	9,046	13,468	19,803	37,518
Defence	-na-	141	81	126	370	862	7,742	2,955	8,408	9,188	10,750
Administration	-na-	-na-	93	739	1,105	6,309	839	1,241	1,888	4,803	11,217

Source: Malaysia Plan document, various issues. MaP = Malaya Plan; MP = Malaysia Plan.

(a) Public expenditure in the agricultural sector now includes rural agricultural development

(b) The government ceased to finance new land resettlement schemes after this period

The young government was fully committed to balanced development and correcting gross income inequality. State intervention came most notably in a series of agrarian reform measures in the 1960s and 1970s, implemented via three different strategies: intensification (in situ development), extensification (opening new land settlements) and diversification (new crop and processed output) (Sukor Kassim, 1984). These agrarian reforms were given special attention in the following section due to their significant effects on land use and ownership.

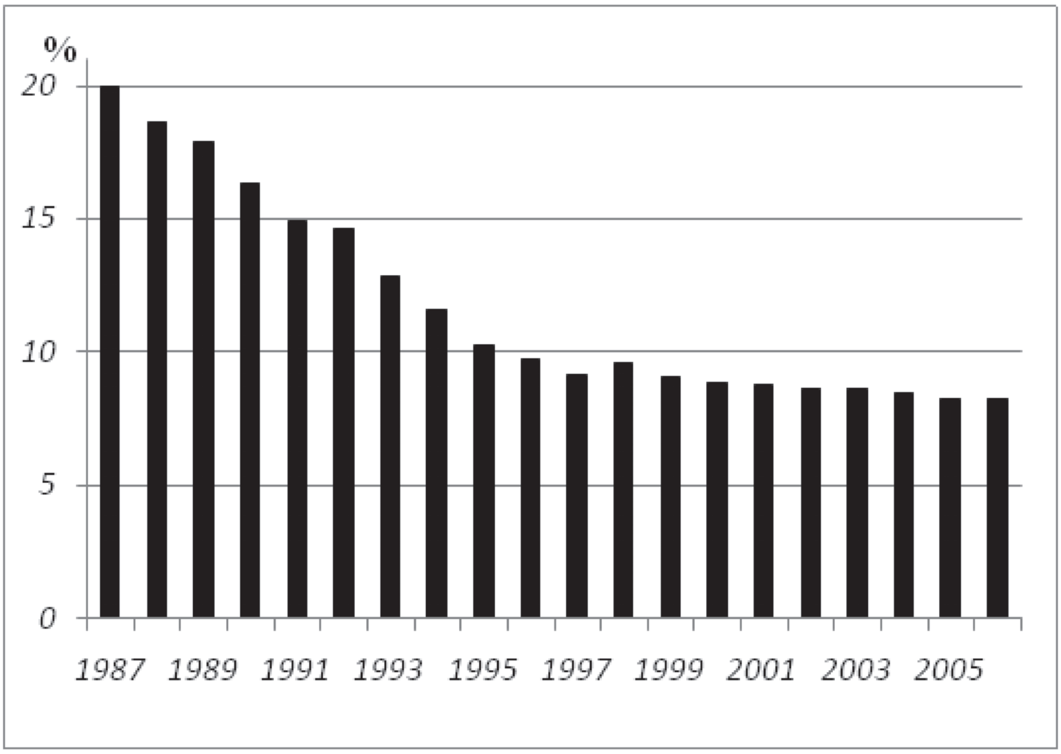
In situ development: According to the Second Malaysian Plan (1956-1960) document, the number of smallholders in the country was approximately 750,000 with half of them Malay; and 90 per cent of all smallholders held less than 10 acres of land (see Wan Hashim, 1988). With volatile prices, low technology and uneconomic land sizes, the smallholders sector were at the time in dire need of restructuring and support. Apart from smaller State-based institutions, the Federal Land Consolidation and Rehabilitation Authority (FELCRA) and the Rubber Industry Smallholders Development Authority (RISDA) were set to address the problem structurally. The former, established in 1966, is tasked to salvage and rehabilitate derelict land schemes, and small holdings; while the latter, established in 1973, is responsible to rehabilitate and consolidate small parcels of land into more economic-sized holdings. In the Third Malaysian Plan (1976-1980), six "Integrated Agricultural Development Projects" (IADPs) were implemented in Muda (MADA), Kemubu (KADA), Kedah (KEDA), South Kelantan (KESEDAR), Middle Trangganu (KETENGAH), Southeast Pahang (DARA), Southeast Johor (KEJORA) and Jengka regions; involving a total of 923,565 hectares, of which only 52 per cent is cropland and the rest for social amenities. Of the cropland, almost 42 per cent are planted with rice.

New Land Settlement: The second set of agrarian reforms involves the creation of new land settlement projects basically aimed to reduce population pressure on existing land resources, remove the hard-core poor (the landless and the underemployed) to more economic-sized farms elsewhere. The move created a new class of landowners in which land is operated similar to private plantation companies but proprietorship belongs to smallholders. One that is prominent and still active is run by the Federal Land Development Authority (FELDA). The scheme require that States allocate large blocks of virgin land to FELDA, although the operations were largely funded through Federal budget allocations. Production processing facilities, managerial and technical assistance were established in a way to encourage modern agricultural practices. In the pioneering schemes, each settler was assured that once payments to FELDA were completed (through monthly deductions from farm revenue over a period of 15 years), land where his farm and house are located will be registered under his name. However, the land title comes with several restrictions –it cannot be subdivided, sublet or mortgaged. In schemes launched after January 1978, the settlers were promised individual titles to the land for his house but not the farm. Instead, they were made 'collective' owners of the scheme's cultivated land in a cooperative farm system. Participants in the newer schemes (launched after 1985) are rewarded with 'shares' of the farm assets through the FELDA Investment Cooperatives (FIC). These shares are non-transferable but would entitle the participant to dividends and bonuses arising from FIC operations, based on the portion of the land that he would acquire otherwise if the old system was still in place. The ownership structure continues to evolve today with the establishment of FELDA Global Ventures amidst other internal changes.

Basically, by opening up land settlement schemes on virgin State lands, the government was able to steer clear of potential political unrests and court proceedings that usually follow government land takings. Today, there are more than 300 FELDA land schemes in Peninsula Malaysia alone. Overall, the FELDA land settlement model have been fundamental in enlarging agricultural land hectarage in the country and is widely acknowledged as one of the most successful agrarian reform models in the developing world for addressing problems of spatial imbalances of population distribution, landlessness and unemployment. Nonetheless, because of the high costs involved in the preparation of virgin jungle land for modern large-scale farming, the schemes cannot be easily replicated and sustained in the long run. As population grew, the model can no longer be relied on to solve poverty arising from land-deficit. There was already tremendous strain on available land resource, public funds and manpower to run existing schemes. Since Pahang and Johor are land-rich States with large and numerous schemes, a disproportionate number of FELDA settlers originated from these States; while the landless from more densely populated but smaller States such as Selangor were relatively disadvantaged. Due to these constraints, the government stopped opening new FELDA schemes by the Sixth Malaysian Plan (1991-1995).

Economic Structural Transformation of the 80's and 90's: The need to look for other sources of economic growth became most pronounced in the early 1980s as fiscal stimulation programmes failed to cushion the impact of the slump in rubber and palm oil markets on the agricultural sector. Over-investment in the commodities' sector and improved inventory management and farm productivity contributed to the problem of excess stock (Thong, 1987). At the same time, newer and cheaper supply emerged in the form of Thailand and Indonesia, for rubber and palm oil, respectively. Economic diversification policies into manufacturing and services caused public sector expenditures, including for agriculture, to be reduced. Government expenditure to promote industrial and commercial activities rose by more than four times from the 1971-75 period compared to the 1981-85 period (see Table 2 earlier). These economic transformation strategies were successful as seen in the high growth rates seen beginning from 1987 and ended its bullish run in the Asian financial crisis event.

In the process, agriculture lost its political, commercial and social appeals. Along with adverse commodity market conditions, labour and technological deficiency, the lack of attention and progressive programmes caused growth rates of income from agriculture to fall way behind the newer sectors(see Figure 1). Kamal Salih (1990) wrote about the somewhat neglected state of the agriculture, especially the peasant agriculture where the Malays were mostly involved in, and linked this trend to the "Booming Sector Syndrome." The government realised this as well and hence rolled out two National Agricultural Policies (NAP) that focused on strategies to push for modernisation and commercialisation of smallholders. Nonetheless, not much was achieved in that small farmers' were unable to effective and efficiently adjust to the rapid social and economic transformations that were going on around them. Despite government's specific programmes and budgets to help farmers re-organise their holdings and operation, it is also conceded that there were "leakages in the delivery of (agricultural) support programmes" (Sixth Malaysian Plan 1991:p. 104). Contribution of agriculture in GDP gradually fell and by 1995, it was only half the level it was in 1987. To the rural folks, land which used to be both the main resource and personal asset, is now substituted by other investment assets that can better suit their capital growth and hedging needs. New educational and employment opportunities arose with better geographical and social mobility for the rural communities. These had essentially caused declining interests in farm work, exacerbating labour shortages issues in the farms. Table 3 demonstrates that labour involved in agriculture, hunting and forestry sector as a proportion of Malaysia's total labour force, halved just within a span of 10 years, i.e., 1987 to 1997 (from 28.6 per cent to 16.9 per cent).



Source: Department of Statistics, Malaysia.

Figure 1: Contribution of the Agriculture, Hunting and Forestry Sector to Malaysia's GDP (%)

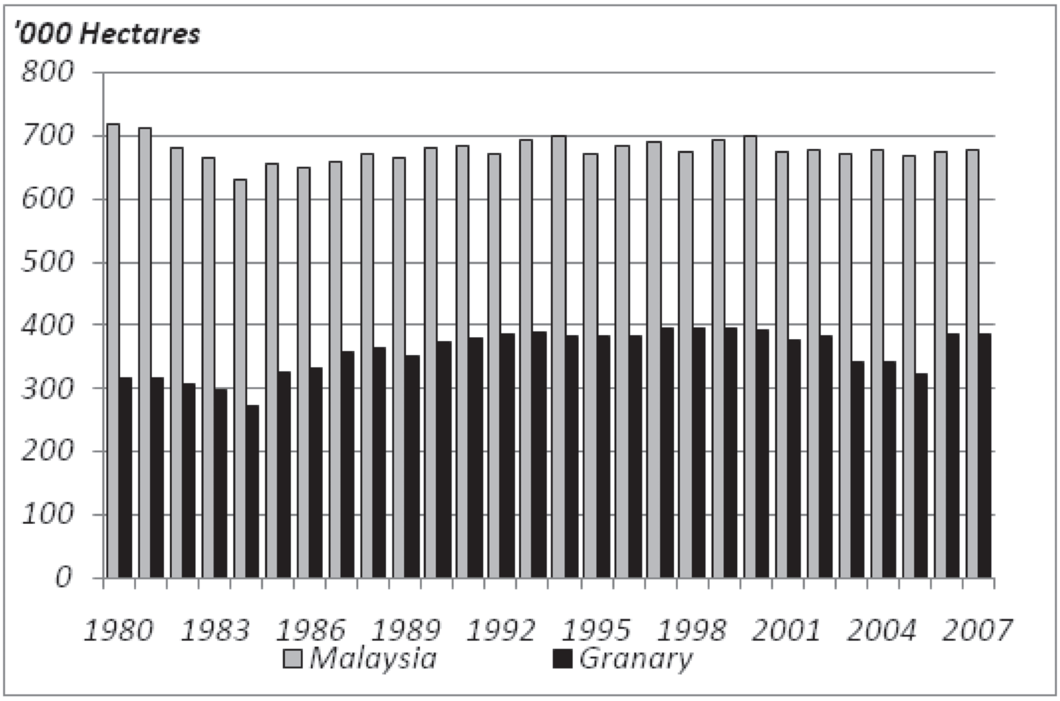
Table 3: Proportion of Agricultural Workers within the Malaysian Labour Force

Year	1982	1987	1992	1997	2002	2007
Total Labour Force ('000)	5431	6457	7319	8784	9886	10889
Employment in Agriculture, Hunting and Forestry ('000)	1636	1846	1536	1481	1317	1437
Percentage	30.1	28.6	21.0	16.9	13.3	13.2

Source: Department of Statistics, Malaysia.

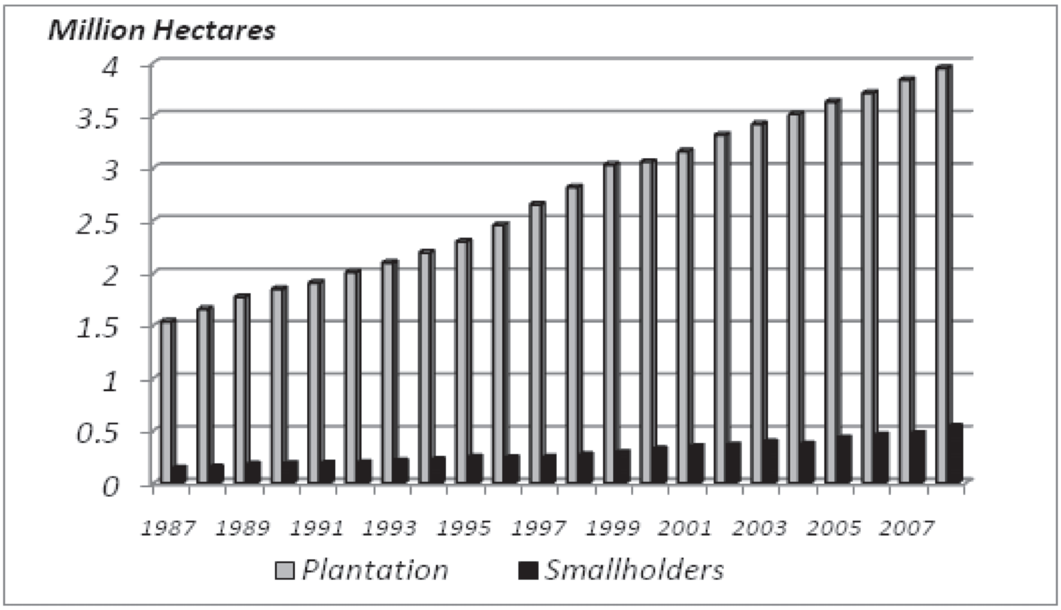
Non-agricultural demand for land grew exponentially in the '80s and '90s industrial boom years. The private sector firms compete among themselves to build large land banks purely in the rural areas for future capital gains and inflation hedging purposes. On the other hand, the Land Office received greater numbers of applications to change farmland-use conditions to residential, industrial or commercial uses. The seemingly unrelenting demand and accommodating attitude towards conversion of agricultural land during the era caused the efficiency of the land market for farmers to be compromised and in many cases, biased towards land speculators. This ultimately brought far-reaching consequences on remaining farmers because prices have gone up far beyond their reach, hence limiting their ability to expand their farms if they want to.

The Federal government declared in the Third Malaysian Plan (1975-1980) document that rice imports will be increased if world prices fell lower than domestic prices, rather than trying to address domestic production issues of the time. As the sector struggles with ever tightening labour and land markets, government's self-sufficiency targets for rice production fell to 65 per cent by 1993. Total rice planted area declined slightly in the early 80's, mostly due to conversion of paddy lands in non-granary areas (Figure 2). Despite the increasing demands for rice from an ever-growing population, paddy land hectarage continued to stay stable over the years. By looking at Figures 2, 3 and 4, it is quite evident that the rate of land expansion for export crop has grossly overtaken the rate of land growth for food crop cultivation. Cheap foreign food imports and a change in diet compositions away from rice as the staple food were not helping the situation.



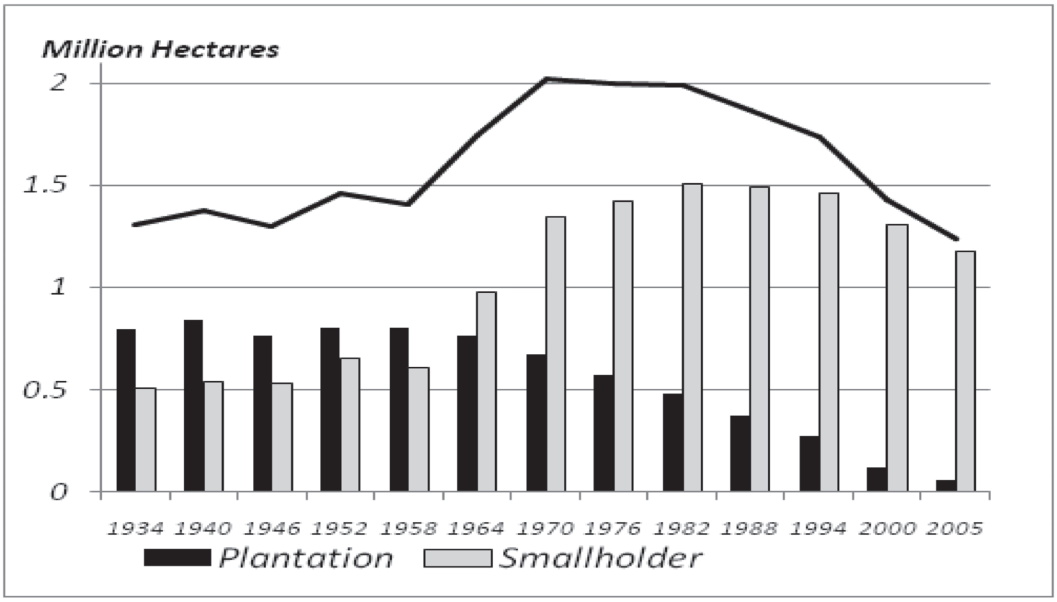
Source: Department of Statistics, Malaysia.

Figure 2: Granary Areas Relative to Malaysia's Total Paddy Planted Areas



Source: Department of Statistics, Malaysia.

Figure 3: Oil Palm Hectarage by Type of Agriculturalist (1987 - 2008)



Source: Department of Statistics, Malaysia.

Figure 4: Rubber Hectarage by Type of Agriculturalist (1934 – 2006)

To summarise, the British rule brought with it major land reforms to Malaya. The land titling and TOL systems emerged to allow for more efficient land control and taxation system by the British. The system encouraged large capital investment in agriculture and commercial infrastructure which later provided the young independent country the necessary foundation for further economic growth and diversification. However, major reforms in the agricultural sector were later inevitable to address inequity in the population brought about by the economic structure.

Discussion

Land reforms introduced by the British set in motion an entirely new method of acquiring, utilising and exchanging land. Although its main intention was to enhance property rights and thus, security of investments on land, the new system also created a way for the State authority to control and manage land supplies for agriculture and other subsequent uses of land (Wilcox, 1978), particularly prior to the formulation of detailed land-use plans at national, State, district and municipalities levels. To promote clarity, the discussions will take place in the context of three major issues in the Malaysian land market: (i) land fragmentation due to the informal credit market; (ii) land fragmentation due to inheritance and titling systems and (ii) agrarian schemes regulations.

Fragmentation due to Informal Credit System: In the Malays' Muslim faith, direct borrowing with interest is not allowed and thus formal credit mechanisms were almost non-existent. In its place, the Malay rural folks applied a system of conditional sale or "jual janji" instead (Mohkzani, 1995). When in need of credit, a farmer may 'sell' his property in exchange for a specified sum of money. The buyer does not take possession of the land, instead allows the farmer to pay back his purchase price in a number of instalments, interest-free. In this way, the farmer can continue working or staying on the land (as was normally the case since there was unlikely any other options available). However, he is now also considered a tenant to the buyer. Through this supplementary contract, his payments are now larger as they include the interest-free instalments and rental for the land. The land sale will ultimately materialise or take effect; i.e. *putus* in the Malay language, in the event of default on either the loan or the rental. Losing portions upon portions of land via this method was not uncommon since the uneconomic land size and simple farming methods typically leave very little surplus beyond the farmers' own needs for loan servicing and rents.

The *padi kunca* system is another form of informal farmer's credit involving land. Middlemen is the most common source of pre-harvest financial support. For the specified amount of money received, the farmers would re-pay the middlemen with money from selling harvested paddy or more specifically, *kuncas* (approximately 576 kg) of rice. Because of the timing, the value of one *kunca* of rice during harvest season is often smaller compared to pre-harvest seasons. As such, the farmer (borrower) would have to pay back in greater number of *kuncas* to the creditor to compensate the value of the *kuncas* (in currency) he received as loan during the non-harvest period. The debtors quickly found themselves descending deeper and deeper into debt and in the end he often had to sell part of his landholdings to the middlemen as settlement of his debts.The British colonial government even acknowledged its exploitative effects on the Malays. A description of the system is found in An (2003, p. 132),

"To enhance the paddy price and depress the rice price, the (British) government's other effort was to break the Chinese rice millers' financial ties with the Malay peasantry.This refers to the very common practice of the advance sale system of paddy, known as *'paddy kunca'.* The majority of the paddy planters had fallen into the clutches of Chinese paddy dealers, to whom they were in serious debt. At the beginning of every planting season, through paddy dealers, the rice miller advanced loans to most of the Malay cultivators. The miller would provide the cash loans in exchange for paddy at harvest time.The practice was heavily criticised for its exploitative nature.The cultivators were required to pay back their loan to the miller in paddy at a price under the market rates, and at exorbitant interest rates. Note:The interest rates were rather high, in some cases up to 40 to 60 per cent in 1920."

It is therefore, inevitable that more and more *'padi kunca'* lands were amassed by the middlemen. However, because the land parcels were generally small in size and scattered all over the village, the middlemen had no real interest nor ability to operate them in any efficient way. Hence, these parcels were most often leased as tenanted land to new individuals. Land-based credit system such as these grew corresponding to the increase in the local population, frequency of poor harvests and influx of the more finance-savvy Chinese and Indians who made up most of the middlemen. It can be said that land concentration as well as the problem of landlessness and inequity in the rural society is partly attributed to the informal credit systems practised then such as *jual janji* and *padi kunca*. By the early 1950s, the rate of land transfers from Malay interests to Chinese or Indian middlemen had become quite worrying, such that various forms of regulations including the Malay Reserve Land enactment were introduced by State authorities to slow down the rate of land outflow from Malay ownerships.

Fragmentation due to Inheritance and Titling Systems: The way the land inheritance is recorded and executed in the Torrens system has also a part to play in the land fragmentation issue in Malaysia. In many instances, Muslims die intestate and Islamic law of inheritance is applied by the families with respect to estate distribution. Land, often being the only substantial asset to be distributed, should be distributed to all rightful heirs and in specific inheritance proportions. The Torrens title registration system allows co-ownership because of its title registration nature and therefore it is perfectly suited to the inheritance system. However, this led to scenarios whereby two or more people may share a single land title; and without cooperation between them, the land may fall into disuse as the co-owners fight to resolve their intentions regarding the land. In the easiest outcome scenario, non-active co-owners (those who are not farming the land, e.g. one son who has migrated to the city) can renounce his or her rights voluntarily or in exchange of other assets or payments (buy out the others' shares in the land), leaving the farming sibling to take over the farm.

To illustrate, let us assume A has four children, two girls and two boys. Upon his demise, all his physical and financial assets are to be distributed among his beneficiaries according to the Muslim inheritance law. In practice, the first step is normally to identify the rightful beneficiaries to A's assets, and secondly, assemble and quantify the value of his estate. The farm is the only non-movable asset owned by A, and he has a small amount of savings in the bank. After paying off creditors using the savings, the beneficiaries will elect an administrator of the estate. For further simplicity assume the beneficiaries are Wife, Son 1, Son 2, Daughter 1 and Daughter 2. Assume that the land is 3.5 hectares, the distribution portion and land claims are shown in Table 4.

Table 4: Estate Distribution and Land Shares: Hypothetical Case

Beneficiary	Proportion	Land Share (hectares)
Wife	6/48	0.44
Son 1	14/48	1.02
Daughter 1	7/48	0.51
Son 2	14/48	1.02
Daughter 2	7/48	0.51

Note: The proportions are determined based on Faraid Laws where no other individuals are eligible for inheritance rights over the estate.

With respect to the farm, there are several alternative options for them to choose from as allowed by the Torrens land system:

a) The beneficiaries can keep the original lot intact, have their names and respective land shares registered at the Land Office. Essentially, they are co-proprietors of the land, despite not yet having specific sub-plots drawn for each person. The full lot can be leased out and its proceeds shared according to their shares in the land. If let say, one of the children continues his late father's work on the land, he would pay other beneficiaries their respective shares of the net returns from the land minus his expenses.

b) The beneficiaries can negotiate for a settlement amongst them as to who will receive what, most preferably to allow only one beneficiary per asset, where possible. The person receiving the land must buy out the others' shares or swap shares in other assets. Anyone can choose to renounce his or her claims if he/she finds it very insignificant or troublesome to maintain. Thereafter, the remaining claimant could be registered as the sole owner.

c) The beneficiaries can register their claims on the land, paving the way for partitioning to be done. Provided that one's share of the land is large enough (more than 0.47 hectares, at least) and that others consent to this withdrawal from the original Lot 101, he or she can apply for separate land titles. The application process must be initiated by the person owning the largest share of the land, which is in this case either one of the sons. The rest can also claim separate titles, except where the claims produce sub-plots smaller than 0.47 hectares). In our example, A's wife must merge with any of her children as she cannot seek an independent land title for herself.

d) If the inherited lot is relatively large, the beneficiaries can collectively opt to liquidate all claims on the land in return for cash, which is more easily distributed according to their respective shares.They may engage a land broker to find interested buyers to buy the land as it is. Alternatively,the beneficiaries could pool funds amongst them to undertake the process of converting the land-use condition into non-agricultural – an effort that can be worthwhile, if real estate prices have potential to grow in the future. In this case, the lot remains intact and all beneficiaries receive their share of the inheritance via the sale proceeds.

Say that one of the beneficiaries dies before the land-partitioning or buy-out process is completed, the original list of beneficiaries will be extended to include his or her own heirs. In some cases of prolonged estate distribution process, the number of beneficiaries has grown such that there are bound to be one or more beneficiaries that have changed address or no longer reachable for decisions or payments.

Issues relating to co-ownership of land continue to complicate and impede government efforts to encourage optimum land utilisation. The fragmentation process has left a large number of land parcels either unsold or under-used. The actual numbers are not available as Malaysia do not yet have a database of wills, assets and liabilities to facilitate estate distribution matters. It is reported that as of January 2007, there are unclaimed properties and land worth a total of RM330 million and approximately 1,000,000 land titles which have not been properly distributed due to lack of communication means and disagreements amongst family members (Amanah Raya Berhad, 2008). Department of Agriculture in 2015 recorded a total of 119,273 hectares of idle land in 69,734 lots; an average of only 1.71 hectares per lot.

However, it must be emphasised that the issues discussed above are not due to flaws in the land inheritance system nor the informal credit system themselves. For instance,with respect to the use of land titles as loan collaterals, the peasant informal credit system is no different with modern (formal) credit one that we practise today. However, the former contributed to land fragmentation significantly in the past primarily because the farm is the only collateral worth putting up and because of the small farmers' poor ability to meet repayment obligation'. Due to the nature of their farms, they were more vulnerable to unpredictable weather and only often made small profit margins from their farms. These risks obviously do not affect salaried workers or non-agricultural businessmen who took loans today from the modern banking system.

Likewise, the problem with the Muslim Faraid inheritance system is not in its principles and structure, but rather in its execution amongst the Malay community. When it comes to indivisible assets such as land, transfer of assets during the lifetime of the parent (instead of after death)is the most appropriate option. Indeed, there are plenty of arrangements found to be suitable in Islam to do exactly this, such as the gift "hibah" and trusts instruments. If the land has not been transferred to anyone, the parent can exercise his or her testamentary powers to propose a reasonably fair distribution of property upon his or her death and even allocate a maximum of one-third of the property to non-heirs or charity if he or she so wishes. In general, a well thought out estate planning can ensure that no one in the family is left financially deprived after the death of a person. Yet particularly for the older generation, 'planning for death' is still a taboo subject and troublesome too especially when there is very little of assets other than the land to leave behind. Nonetheless, this trend will continue to disrupt farming activities and momentum when existing farmholdings become embroiled in family disputes and disagreements.

Challenges in Agrarian Schemes: Given the problems of absentee landlords, co-ownership, scarce labour and scattered locations of farms, it is not difficult to imagine the challenges faced by the Ministry of Agriculture, RISDA and FELCRA in pursuing rehabilitation and consolidation of private smallholdings in the country. Firstly, many of the smallholders were not able to join the schemes either because they are unable to secure proper land titles being a co-owner of the land; or because the land has been pledged as collateral for loans.

Whilst these constraints may not apply to land settlement schemes, the cost of establishing a new settlement area can be extremely prohibitive. Settlers are provided production, management and marketing support as well as suitable social amenities for the whole family. Because of its costs, many argue that a larger number of the poor can benefit from funds saved if FELDA's support is limited to production and processing activities only. Over the years, FELDA's land ownership system has evolved from the initial "individual-ownership" to "block or group-ownership" system and, most recently, to an essentially "non-land share-ownership" system. FELDA has also yet to effectively resolve issues regarding second and third generation settlers, who want greater independence concerning their land, e.g., in deciding where to sell their output, which crop to cultivate, how to dispose their interests in the land scheme if they are no longer interested or able to continue. Many of the pioneering schemes have moved on to a second generation of settlers and a replacement crop. Foreign labour is now used for most of the farm work. FELDA has initiated a large number of rural industrialisation projects and diversification programmes to help keep more settlers' children on the schemes. Despite that, because (i) there are many good educational opportunities for settlers' academically-inclined children; and (ii) regulation says only one son can inherit the family's landholding, second-generation settlers are often self-selected as opposed to the careful selection procedures that were behind FELDA's initial success (Sutton, 1989, Bahrin and Perera, 1977).

The process of inter-generational transfer in the settlement schemes can also be problematic due to lack of clear guidance. Mohammad and Noor's (2010) found that up to 60 per cent of their respondents cited family disputes and disagreements as the main causes why transfer process often falls through. FELDA has not allocated sufficient knowledgeable manpower at its centres to help process and advise settlers' transfer applications. This and a host of other factors are shaping the landholding patterns and its productivity (for income improvement purposes) in Malaysia's agrarian schemes.

Conclusion

The paper investigates how the interaction of land-related institutions creates and influences the size of peasant landholdings. Our discussions showed how the Malay rural traditional credit system and inheritance mechanisms work to became important land transmission mechanisms. One can expect land fragmentation to still increase in the rural areas over the years, as long as farms have to be used as credit collateral when farmers fall under economic duress and as long as people are reluctant to adopt optimal estate planning measures.

The issues mentioned here are far from exhaustive but should highlight the need to critically assess the role and objectives of land system and institutions. Macro and micro assumptions that justify their existence in the past need to be reviewed so that new roles and mechanisms can emerge to suit changes in the country's demographic composition, minimum economic size of farms, preference for agricultural activities, risk tolerance, level of education and training, land concentration ratios, cost and availability of labour, capital requirements, industrial linkages for the output, to name a few. In a nutshell, the government needs to make a bold and serious attempt to engineer modern, equitable and sustainable agricultural growth models in which key components must include:

(i) proper and attractive exit options for aging or 'withdrawing' farmers; and

(ii) solutions to problems faced by co-owners of inherited land.

Scattered and uneconomic agricultural parcels must re-organised, consolidated and made more attractive to serious agricultural investors and farmers. New agricultural models naturally take time to show results and overcome scepticism, but are important for the future of the sector.

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