Do Malay Estate-Distribution Practices Contribute to Lower Land Values?

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Abstract: The paper describes how complex co-ownership issues arising from estate-distribution can lead to uneconomic farm sizes or sometimes prevent farming activities altogether (through land-use conversion or land abandonment). Muslims in Malaysia rely almost exclusively on Fara'id laws in which ownership of all the deceased's assets, including land, are apportioned to his beneficiaries. The interaction between the religiously-prescribed estate-distribution methods and the British-introduced land administration system may have indirectly contributed to undervaluation and fragmentation of rural land, mostly owned by Malay households. In the short run, the adverse effects can be seen in the uneconomic farm sizes and eventual conversion of farmland to other uses. In the long run, the trends may erode food production capabilities of the country as well as the Malay-Muslim total land holdings and therefore their economic wealth. Empirical evidence showed that paddy and vacant land, two types of land typically associated with Malays in Malaysia, are indeed valued lower than like-to-like land parcels in other categories. It is hoped that the paper can trigger more in-depth research to better public awareness and inform policy-improvement measures by the present land-related agencies and Muslim affairs authorities.

Key words: Land values · Hedonic price model · Estate distribution · Land abandonment

INTRODUCTION

Legal reforms brought by the British administration in respect to land administration left a profound effect on the way land in Malaysia is used and distributed. Prior to this, individuals or groups in the Malay-Muslim community are only able to acquire usufruct, i.e., rights to use, of a property (land). The Torrens land titling system, introduced in 1896, however, gives a person indefeasible claim, including conveyancing rights, to a specific piece of land upon registration of his or her name on the land's title. This change in the grounds of ownership from usufruct to title registration in no small measure lead to the emergence of speculative motives in holding land, a concept which was previously non-existent in the traditional Malay-Muslim worldview [1].

When land titling was first introduced, the peasant Malays were asked to register the land they were utilizing during the time. Naturally the initial sizes of these holdings were small, given that Malays were typically using land only for subsistence farming and dwelling. It follows that upon death of its owner, where it was also very likely that the land, being the only substantial asset to be distributed, would be divided into even smaller sizes to be given to his beneficiaries. In the Malaysian land registration system, it is entirely possible to register more than one individual as co-owners of any given land parcel. Many families adopt Shari'ah's prescriptions for guidance regarding asset-division proportions and beneficiaries, especially if the deceased died intestate and there is no alternative and mutually agreed scheme of distribution. Indeed Islam offers an astoundingly clear, refined and structured method of estate distribution through Surah An-Nisaa verses 11 -13 as the basis of its Fara'id law of inheritance. With respect to land, no single person can take full ownership of the land until others have renounced their rights to their own shares voluntarily or in exchange of other assets or payments (buy out the others' shares in the land) [2-10].

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From a purely economics point of view, how do estate-distribution issues affect market for land, specifically, agricultural land? As land is passed down from one generation to another, the process of land fragmentation takes place continuously partly due to estate-distribution decisions. Fragmentation of Muslim landholdings remains a major economic concern throughout the country's history and is often blamed for unsuccessful revival of the agricultural sector. The 1960 Agricultural Census shows that 59 percent of all farms were less than 4 acres, while over 90 percent were less than 10 acres. It is worse in the paddy sub-sector where 54 percent of the holdings were less than 2.75 acres while 97 percent were less than 10 acres. Today, land fragmentation is one of the causes for the country's large numbers of unsold and unutilized inherited land. As at 1981, the Ministry of Agriculture identified 890,000 hectares of abandoned agricultural land and of that amount, 18% was paddy land (Sahak, 1987). More radical figures have been quoted about the real extent of the land abandonment in Malaysia. In an article published in 1995, the Director-General of Forest Research Institute of Malaysia estimated that 3 million hectares of farmland are not effectively cultivated (New Straits Times, 3 January 1995). By January 2007, unclaimed properties and land valued at a total of RM330 million and approximately 1,000,000 land titles had not been transferred to the rightful beneficiaries either because they cannot be traced or they cannot agree to the proposed estate-distribution scheme (Amanah Raya Berhad, 2008). The 9th Malaysia Plan (p.85) reports the existence of 163,000 hectares of idle land from the period of 2001 to 2005. In the 10th Malaysia plan, no official statistics were released but the government stated that it is acutely aware of the scarcity of suitable farmland for food production yet no new paddy-growing area is to be opened (Malaysia, 2011, p. 137).

To the best of our knowledge, there has been no empirical study that links the market value of land to the nature of land's ownership i.e. co-owned through estate-distribution of the deceased or owned by single entity. Data on exact ownership status of any given land is not available through secondary data sources, yet it is still possible to make inferences about the market for Malay-owned smallholdings through other means. For the purpose of this study, a pricing model is regressed with the final objective to compare mean predicted prices of various land sub-types including ones that can closely reflect the Malay-owned smallholdings sector.

The organization of this paper is as follows. Section II discusses in greater detail the effect of land titling on land fragmentation and therefore, land values, in the context of Malaysia. Muslim estate distribution examples are given in light of Fara'id and National Land Code (NLC, 1965) provisions. Section III describes the empirical model and assumptions used to shed light on price differentials of various types of land including ones that typifies Malay rural landholdings while Section IV provides some points to ponder and final summary [10-17].

Land Co-Ownership Through Estate-Distribution: The Malaysian National Land Code (NLC) (1965) allows land partitioning as a possible way out of co-ownership ties. However, the inconvenience of negotiations and bureaucracy are often daunting in costs and time and individuals involved also need to deal with the sensitivity of death and family relations. Furthermore, all co-owners must agree to the partition at the same time. Due to this and a host of other factors, it is not uncommon to find land distribution cases go on unresolved for decades. In the event that one of the beneficiaries passes away before the process is completed, then his or her beneficiaries is automatically added to the existing list of "co-owners", although their collective share is limited to what is claimable by the individual they inherit from. The number of co-owners can indeed multiply before a complete solution is executed, causing even more difficulty in negotiation and procedural matters. The Malaysian law gives equal recognition to all co-owners, unlike the British land registration system which allows up to a maximum of four people to have registered ownership interest in the land.

One possible strategy to avoid protracted estate-distribution process is to set up a firm to manage the land whereby the beneficiaries' interests are translated as equity in the firm. However, this option is economically worthwhile only if the land is sufficiently large and highly productive. For smaller holdings, co-owners often resort to selling the land (in return for cash inheritance) or apply for the land to be partitioned. Through the latter, each co-owner can independently decide what to do with the land since they now obtain full rights on their respective portions of the land, subject to certain restrictions.

Transmission of land via estate distribution process can be illustrated as follows. Assume Ahmad has five children, three daughters and two sons. Let say, Lot 103 which is 3 acres of prime farmland is the only major asset left behind by Ahmad when he passed on. Table 1 shows his beneficiaries' respective claims on the land according to Fara'idh laws.

Table 1: Hypothetical Example: Fara'id Division of Lot 103

Beneficiaries	Share by Category	Per person share	Land size per person (Acres)
1 Wife	1/8	1/8	0.375
3 daughters	3/8	1/8	0.375
2 sons	4/8	2/8	0.75

The beneficiaries' options regarding the land are as follows:

- Keep the original lot intact, but have all their names and respective shares on the land registered at the Land Office. Essentially, they are co-proprietors of the land despite not having specific sub-plots drawn for each person. The lot can be leased out and its proceeds shared according to their shares in the land. If let say, one of the sons continues his late father's work on the land, he would have to share the income with the other beneficiaries after deducting expenses and reward for his efforts.
- Negotiate for a settlement amongst them as to who will inherit which asset, ideally to allow only one person per asset if the assets are of comparable values. The person receiving the land must either buy out land shares owned by others or swap his shares in other assets e.g. cash, for ownership of land. Note that any beneficiary can renounce his or her claims on the land, although this is more often than not because the share is too insignificant or troublesome to maintain. Thereafter, the remaining claimant will be registered as the sole owner.
- The beneficiaries can register their separate claims on the land, paving the way for partitioning to be executed. The application must be initiated by the person with the largest share of the land, which in this case is one of the sons; and that other co-owners consent to the proposed partitioning plan. For agricultural land, the partition must not result in sub-lots that are less than 0.4 hectares. Since the wife and daughters inherit less than 0.4 hectares individually, they are forced to join as co-proprietors of one of the new sub-lots of land.
- Sell the land, i.e. liquidate all claims on the land in return for cash, which is then distributed according to the beneficiaries' respective shares. They may engage a land broker to seek interested buyers who want to buy the land on an "as is" basis.
- Alternatively, the beneficiaries can pool funds to convert the land into any of the development land category – an effort that can be worthwhile, since price appreciation for this land type is generally greater. In summary, Lot 103 remains intact, while all beneficiaries receive their share of their inheritance in cash net expenditures incurred to execute the change of land-use status and so forth.

From the above scenarios, it can be easily seen why smallholdings such as Lot 103 above, are increasingly converted from agricultural to developmental use (option (v)). Firstly, if the beneficiaries decide to sell the land, it is better to sell the land as residential, commercial or industrial property for its higher sales value. Secondly, land conversion may be inevitable in cases where the partitioning process leads to resulting agricultural sub-plots that are less than 0.4 acres. Non-agricultural land can be partitioned or subdivided into any size up to the minimum allowable area determined by the local planning authority (usual conditions regarding access, shape of land and infrastructure apply).

Prolonged delay in decision-making can also lead to land idling, despite the various built-in preventive measures provided in the NLC to discourage this. Sections 117 and 127 of the NLC allow States to initiate forfeiture proceedings on agricultural lands left idle beyond a period of three years on grounds of a breach of the agricultural land-use conditions stated in the title. However, this law has been very rarely enforced (none that we know of) possibly out of fear of adverse ballot-box reactions. Section 129(a)(b)(c) have even been amended to replace forfeiture with "temporary possession" of the land so that the State can develop or cultivate the land or invite a third party to do so. The landowner is exempted from financing the remedial work undertaken on the land in this situation. Nevertheless, the incentives and legal threats have not proven effective in many instances. To demonstrate the challenges in reviving abandoned agricultural land with co-ownership issues, we describe a case in Negeri Sembilan. In 2001, a pilot project to consolidate fragmented land through voluntary participation was launched by the Ministry of Agriculture in collaboration with the State government. The objective was to develop a 220 hectare tract of contiguous smaller plots of abandoned farmland. The combined plots involved 180 owners. Despite the extensive use of government machinery and local support,

the process of obtaining landowners' consent alone took more than three months to complete. Given the same situation, it is hard to imagine a private agricultural investor being interested to embark on a similar land consolidation project. If it is true that such lands have difficulty in attracting public or private agricultural investment, it follows that market valuation of the land should be relatively lower compared to "single-owner" lands. This brings us to the following section where we attempt to measure the shortfall in market value of land affected by "co-ownership" issues. The data and empirical model are explained in detail.

Data and Methodology: If it is hypothesized that complexities associated with co-ownership of land (brought about by estate-distribution) can cause the land's value to fall, then one feasible empirical strategy would be to determine if there are indeed significant price differentials between co-owned land and single-owner land. Given Malaysia's history, the most likely agricultural land sub-type to represent the former is the paddy land, being the type of land-use most closely associated with the Muslim-Malay traditional economy. We also include vacant land since co-ownership impasse in many instances leads to underutilization of land. On the other hand, agricultural lands cultivated with rubber and oil palm are usually run or owned by a single entity (either private plantations or government's agrarian agency), hence are more suitably slotted in the single-owner classification. To this classification, we add one final sub-type which is farmland with clear development i.e. non-agricultural potential.

The dataset comprise actual land sales data (n= 2222) of the above five types of farmland in four states in the Central West coast of Peninsular Malaysia during a period of 7 years i.e., between 2001 and 2007. The four states, Selangor, Perak, Negri Sembilan and Malacca are selected because of their relatively higher growth rates of non-agricultural investment and population compared to the rest of the country. Land sales data of total 27 districts in the states are obtained from annual issues of the Property Market Report (PMR). Geographic Information System (GIS) and Population Census data are used to augment the basic dataset. For Malaysia, we find that PMR has greater advantages over other data sources and as a whole is fairly comparable to equivalent US and Canadian land sale databases for a number of reasons. Firstly, it allows the use of actual price paid as the dependent variable. Secondly, because of its latitude, with respect to land types, time and geographical coverage, the

PMR offers a valuable natural experiment opportunity to test price gaps between different types of farmlands. Thirdly, errors and outliers are minimized because the data is already purged of non-competitive transfers such as:

- Land transfers between state and federal ministries or agencies (lease or takings)
- Nominal price or zero-compensation transfers (gifts of land or land-swap transactions).
- Related-party-transactions (i.e., transfers from parent company to its subsidiaries or between associated companies).

The empirical approach essentially involves two stages. In the first stage, we estimate a hedonic price function (Rosen, 1974) in order to ascertain the marginal effect of separate land attributes. This approach is adopted because for heterogeneous goods such as land, the good's price is dependent on the sum of values generated by the good's attributes. The estimated marginal effects of each land attribute are then used in the second-stage analysis to predict mean price of various sub-types of land, when a set of land attributes are held constant. Price comparisons between the land sub-types can then be made thereafter.

Hedonic Price Model: In agricultural economics, hedonic pricing model has been employed to measure values contributed by different attributes of land either extant or emerging following the introduction of exogenous factors. For instance, the model has been extensively used to examine the effect of urban sprawl (Shonkwiler and Reynolds, 1986; Bockstael, 1996; Shi, Phipps and Coyler, 1997; Hardie, Narayan and Gardner, 2001; Towe, Nickerson and Bockstael, 2005; Madisson, 2008); climatic change (Madisson, 2000), tax on land (Hushak and Sadr, 1979; Pardew, 1986), soil quality (Oltmans, Chicoine and Scott, 1988; Palmquist and Danielson, 1989; Roka and Palmquist, 1997; Huang et al., 2006) on land overall values. The general hedonic price model adopts a non-linear transcendental price function written as

$$P_i = \beta_0 \sum_{k=1}^{l} X_{ik}^{\beta k} \exp\left(\sum_{n=1}^{m} \beta_n X_{i,n} \right) \qquad \text{(Eq. 1)}$$

where the model contains $k = 1,2,3,...,l$ continuous variables and $n = 1,2,3,...,m$ dummy variables representing different attributes of the ith land parcel; β_k and β_n are the vectors of regression coefficients and ε is a vector of error terms presumed to have a multivariate normal distribution,

Table 2: Data Description and Summary Statistics: Full Sample (n=2222)

Variable	Description	Mean	Std Deviation	Min	Max
Rprice	Sale Value per hectare (in RM) in 2000 prices	106,028	146,490	4,753	1,254,197
Rdfront	1=Parcel with Road Frontage; 0=otherwise	0.202	0.402	0	1
Distown	Euclidian distance to nearest town (in km)	40.54	24.32	1.81	126.62
Distnse	Euclidian distance to nearest NSE interchange (km)	21.29	18.02	0.48	83.42
Popden	District's population density based on 2000 Census	228.78	303.61	13.09	2516.08
Popgro	Annualised district population growth based on 1991 & 2000 Census (in %)	1.96	2.66	-0.41	13.47
Gsa	If located in Group Settlement Schemes, then gsa=1; otherwise=0	0.22	0.42	0	1
Mrl	If located in Malay Reserve Land areas, then mrl=1; otherwise=0	0.22	0.41	0	1
Dev	If possesses development potential=1; otherwise =0	0.22	0.42	0	1
Oil palm	If planted with oil palm trees=1; otherwise =0	0.27	0.44	0	1
Paddy	If planted with rice=1; otherwise=0	0.05	0.23	0	1
Rubber	If planted with rubber trees=1; otherwise=0	0.36	0.48	0	1
Vacant	If not cultivated=1; otherwise =0	0.31	0.46	0	1

$N(0, \sigma^2 I)$. Variable definition and descriptive statistics are provided in Table 2. The dependent variable in the model is Real Price per hectare of land in Ringgit Malaysia (RM), rprice. Land attributes considered able to affect value of land and for which data are available are road frontage or access, land restrictions, proximity to urban centre and demographic trends. Road frontage, rdfnt, is hypothesised to give positive value to parcel price, irrespective of parcel's sub-type. If a parcel is under any land-transfer or land-use constraint, the relevant restriction dummy variables will take the value of one. The restrictions tested are (i) Malay Reserve Land, mrl, introduced by the state authorities to disallow land in designated Malay-majority areas from being transferred to non-Malay buyers and (ii) land under agrarian reform schemes established under Group Settlement Act (1960), gsa. Proximity of the land parcel to the nearest town area, distown, is expected to be positively related to unit price of land. The significance of this variable is multi-fold. To agricultural buyers, it represents ease and cost of access to market for their agricultural input and output. To non-agricultural buyers, the distance variables represent locational advantage, with regards to social amenities – administrative, recreation and economic – that proximity to an urban area brings. Distance from a parcel to the nearest NSE interchange, distnse, is expected to be important in a similar way although for slightly different reasons. NSE is the main route for transporting commodities for markets in another state or to Thailand or Singapore, as well as for shipment through Penang, Port Klang or Singapore international ports; NSE is also used by many residing in rural areas to commute to work in the larger towns or cities. Demographic information shed light on changes occurring in the surrounding areas of a parcel and is often employed to signal non-agricultural demands on the existing overall supply of land. Population growth,

popgro and population density, popden, which reflects urbanisation pressures, are both hypothesised to be positively associated with land price. Five dummy variables are used to indicate the sub-type of each land sales observation: development, rubber, oil palm, paddy and vacant. All the land-potential dummies are introduced in the additive and multiplicative forms to determine structural stability across the dataset [11].

Because the data came from a number of years, we performed several tests for time effect, even after adjusting all price data for inflation. Price is found to be, to a large extent, stable throughout the study period, except in 2007. In other words, time trend is still present despite using CPI-adjusted prices and that the trend is most obvious for 2007. Preliminary regressions showed that distance from a parcel to the nearest NSE interchange, distnse, is not significant in determining price.

For hedonic models, uncertainty regarding the appropriate functional forms of the relationships is usually resolved either by comparing performance of a standard model in various functional specifications (Halvorsen and Pollakowski, 1981; and Linneman, 1980) or by applying statistical methods like the Box-Cox procedure. Application of the latter to our data supports a double-log specification in which both the dependent and continuous explanatory variables enter the model in natural logarithms. This gives rise to the final form of the model that is estimated:

$$\log P = \alpha + \beta_1 rdfront + \beta_2 gsa + \beta_3 mrl + \beta_4 popgro + \beta_5 lpopden + \beta_6 ldistown + \beta_7 year7 + \varepsilon$$

Mean Price Prediction: Using the estimated model, the conditional mean price per unit of land is predicted for each land type. Because the dependent variable - land

price - is expressed in natural logs, the predicted land values needs to be exponentiated to obtain predictions in terms of real prices (RM per hectare). The mean of predicted log of price is not the log of the mean of predicted prices, i.e. $E[\log(P)] \neq \log(E[P])$. Instead, predicted mean values should only be obtained using the following adjustment,

$$\hat{P}_i = \exp[\log \hat{P}_i] \text{ x } \exp[\hat{\sigma}^2 / 2]$$

where $\hat{\sigma}^2$ is the estimated variance of the residuals. The expected price of the baseline parcel in each of the five land sub-types can then be compared to each other[12].

RESULTS

Since the purpose of the first phase is to identify separate price functions for different agricultural land sub-types, the dummies are interacted with all land attributes (independent variables) in the basic model. Results of the regression are shown in Table 3. The reference land sub-type is oilpalm. Goodness of fit measure is 0.73, which is high given the cross-sectional nature of the data. The model's null hypotheses regarding homoscedasticity ($\chi^2 = 4.10$) and normality of residuals tests ($\chi^2 = 6.24$) cannot be rejected at the 5% significance level. The correlation coefficient between actual and fitted values of land price (in RM) is 0.8073, which is quite satisfactory.

The signs and significance of the coefficients generally conformed to our expectations. Specifically, road-frontage is positively related to agricultural land prices in all sub-types. The effect is strong, increasing the value of the property by between 27 and 49% per hectare. Results also confirm the positive effect of demographic factors on land prices. Estimates suggest that a unit percentage point increase in population growth (from say 2 to 3%) increases land prices by 7% in developable and vacant land and by 21% for paddy land ceteris paribus. As expected, the additional restrictions on use and ownership of agricultural land in Group Settlement Areas and Malay Reserve Land severely reduce the value of agricultural land. The effect of mrl on paddy land is the smallest and the only one that is insignificant. Price of mrl-restricted land is about 23% cheaper if the land has development potential. Land restriction appears to have an adverse effect on price, although only slightly. The probable reason is because mrl does not restrict development use of the land, only that the land must be

held in Malay interests, compared to gsa which explicitly blocks non-agricultural use and outsider interests in the land.

In the second stage analysis, we use estimated coefficients from the hedonic price regression to predict mean prices of a hypothetical baseline parcel for farmland of different land sub-types. The baseline parcel of land is defined as one without road frontage (rdfnt = 0), has no additional restrictions (gsa = 0 and mrl = 0), is located at a distance from a major city that is equivalent to the sample mean of ldistown and in a district with the median observed popgro and lpopden values. The baseline values for popgro, lpopden and ldistown are1.44%, 5.044541 and 3.500646 respectively [13].

Table 4 compares the mean predicted baseline price for each category of land. The predicted oil palm's baseline parcel is RM68,413; paddy, RM44,796; rubber, RM52,631 and a vacant baseline parcel costs RM49,558. The predicted price for an average baseline parcel with development potential is RM229,297, which means that there is on average a substantial net premium of RM175,447 over the average predicted price of land without development potential. The mean predicted prices are all higher than the respective average prices in the sample except for developable and vacant land [14].

Predicted mean price for land with paddy potential is the lowest in all five groups at RM44,796. Although data on size of land parcels are not available (hence its effect is not measured in the model), agricultural census and reports have consistently shown that landholdings in the paddy sub-sector is typically small. The phenomenon may be contributed by the nature of inter-generational asset transfers in the past. Coupled with weak profit margins from rice cultivation in Malaysia, paddy land prices are inevitably lower than that for other types of land. Landowners have to rely heavily on government's incentives to enhance income from rice production. The retail ceiling price of domestically-produced rice is typically set lower than imported rice but does not exceed a level by which ordinary people can afford to purchase it. Furthermore, the variety of rice planted in Malaysia is mostly not considered premium or niche such as the Indian basmathi or the Japanese rice varieties, hence the demand for Malaysian rice is relatively elastic. Even though rice farmers get to purchase seeds and certain quality of fertilisers at government-subsidised prices, this is rarely sufficient to help them since other costs of production (particularly for labour and machinery) are neither subsidised nor passed on to the consumers.

Table 3: Partial Elasticities from Interaction Model Estimation with Land's Potential-Use Grouping

Variable	OilPalm Parameter Estimate	Robust Standard Errors	Rice Parameter Estimate, η_k	Robust Standard Errors	Rubber Parameter Estimate, η_k	Robust Standard Errors	Vacant Parameter Estimate, η_k	Robust Standard Errors	Developable Parameter Estimate, η_k	Robust Standard Errors
Dev	-0.70***	(0.168)								
Rice	0.24	(0.775)								
Rubber	-0.77	(0.413)								
Vacant	-0.28***	(0.075)								
Constant	10.81***	(0.304)								
Rdfnt	0.35***	(0.061)	0.44**	(0.164)	0.49***	(0.047)	0.41***	(0.072)	0.27***	(0.048)
Gsa	-0.20***	(0.056)	-0.06	(0.089)	-0.10*	(0.044)	-0.27***	(0.075)	-0.70***	(0.167)
Mrl	-0.36***	(0.075)	-0.07	(0.073)	-0.13**	(0.045)	-0.13*	(0.055)	-0.26***	(0.051)
Popgro	0.13***	(0.028)	0.21***	(0.033)	0.13***	(0.025)	0.07***	(0.009)	0.07***	(0.007)
Lp.opden	0.12**	(0.042)	-0.02	(0.102)	0.16***	(0.032)	0.15***	(0.030)	0.13***	(0.034)
Ldistown	-0.20***	(0.057)	-0.19*	(0.086)	-0.09	(0.049)	-0.16***	(0.050)	0.09*	(0.039)
Year7	-0.15**	(0.052)	0.01	(0.103)	-0.13*	(0.052)	-0.19***	(0.056)	-0.31***	(0.069)
Observations					2222					
R^2					0.7387					
Adj. R^2					0.7331					
Breusch-Pagan χ^2					4.10 (p-value = 0.0430)					
Jacques-Bera χ^2					6.236 (p-value=0.0442)					

Dependent variable is log of real price per hectare.

Robust standard errors in parentheses (*** $p<0.001$, ** $p<0.01$, * $p<0.05$)

Table 4: Comparison of Mean Price and Predicted Baseline Price by Land-Use Potential

Category of Land by Land-use Potential	Predicted Baseline Parcel Price per unit (RM)	Mean Price per Unit (RM)
Developable	229,297	328,827
Oil palm	62,254	54,365
Rubber	52,631	48,466
Vacant	49,558	50,985
Rice	44,796	36,361

Compared to their European or North American counterparts, there are no direct support or easement payments to landowners on account of their paddy land holdings, therefore none can be capitalised into price. The combination of above-mentioned economic and structural characteristics of the paddy land causes it to be unattractive to buyers [15].

The second lowest predicted baseline parcel price belongs to vacant land at RM49,558. Recall that the vacant category is largely made up of agricultural parcels with very little development potential, which means that their speculative values can be assumed limited. Co-ownership issues may force the affected land to be left uncultivated and sold at lower than competitive prices. Continuous land fragmentation particularly on marginal lands usually entails very little surplus accumulation for productivity improvements or crop substitution in the future. Smallholders are particularly vulnerable to shocks in the input and output market and thus are more likely to abandon their land or sell to the

market when adverse margins persist (particularly when alternative income opportunities are now abundant in the newer economic sectors[16]

The paper describes how complex co-ownership issues can lead to uneconomic farm sizes or sometimes prevent farming activities altogether (through land-use conversion or land abandonment). Complexities in dealing with 'problematic' landholdings have the effect of creating individual inertia that prevents farmers and investors from transacting as much of the land as they would like in that period or even forever; ultimately jeopardizing the market's function to reallocate land efficiently. Landowners may be forced to release their land earlier than necessary to 'unload' problematic holdings and move on. On the other hand, buyers may refrain from problematic land parcels even if it is economically sized if they expect substantial delay and complications in securing full rights to the land. As a result, the market may be saturated with many landowners of small parcels of land willing and eager to sell their land relative to the

number of buyers wanting the lands. Evidence from our empirical exercise shows that mean price of paddy and vacant land are indeed far below the mean price of like-to-like parcels in other sub-types of land less vulnerable to co-ownership and fragmentation risks. For instance a paddy parcel is valued 28% cheaper than an oil palm parcel with exact same attributes; while a vacant parcel is valued 20% cheaper. Despite the numerous economic and non-economic factors that can also explain the relatively lower prices for paddy and vacant land, the effects of continuous fragmentation and co-ownership disputes cannot be ignored.

In any estate-distribution process, it is fundamental to recognize that assets which are fixed and economically size-sensitive should be preserved intact as far as possible. Furthermore, the person owning or operating the land should ideally be the one most suited to the task or most needful of the land to earn his living. A Muslim must be responsible about how he is going to leave his family after his demise. Proper estate planning is vital to ensure that no one in the family is left financially deprived after the passing of a person, yet, 'planning for death' is still a taboo subject for most people. Furthermore, many Muslims are of the impression that Fara'id is the first and sole method of distribution when it is actually not. The spirit of the Quran with respect to the matter is well-embodied in the very verses preceding the Fara'idh injunctions, in particular,

"Let those (disposing of an estate) have the same fear in their minds as they would have for their own if they had left a helpless family behind; let them fear Allah and speak appropriate words."

Surah An-Nisaa':9

Consultations between family members with or without the presence of an arbitrator should be carried out in a positive way with the sole aim of realizing the spirit of the Farai'dh law, which is to ensure that the beneficiaries, both women and men, are given their due shares in a way that would maximize the well-being and ensure that no one would be worse off in the short or long run. However in practice, to avoid extended family disputes, many families have taken to selling the land, sometimes below the prevailing market prices for similar parcels, not unlike 'distress sale' often associated with cash-strapped land-owners. There are many occasions on which the land is sold even though people, whom may include any number of beneficiaries, are forced to move out from their homes or terminate their farming activities. This runs very much against the principle of ukhuwwah, where Muslims owe each other a duty of care and not let financial motives override all consideration. Another issue that is seldom considered is whether the effect of land distribution could lead to deterioration, if not complete destruction, of the land's economic value in the long term. In other words, the sum of the value received from selling their inheritances today could be smaller than the future value of the land if kept fully intact and productive (hence the oft-quoted plea for families to share the benefits of inherited land rather than the physical land). Maqasid al-Shariah demands that the income-generating value of any maal to be protected at all costs and this includes preserving its optimum size and ensuring that either (i) the person most efficient (to maximize return) or (ii) the most in need (to maximize welfare) is using the land. It is imperative that the society recognizes that failure to maximize land's benefits to the beneficiaries is akin to carelessly leaving the family destitute in regards to future income[17].

In estate-distribution consultations, the family members may want to consider other Islamic provisions for example, hibah (gifts before death), takharruj (voluntary withdrawal of claims), thawab (reward or compensation) and wassiyyah (bequests), all of which can be used with hikmah and spirit of ihsaan to maintain the principle of 'adl to all beneficiaries and prevent fixed economic assets such as land from excessive division. It includes taking into account differences in the economic position of the individual beneficiaries. A wealthy beneficiary may be persuaded to transfer their rights on the land to others less financially steady or who is fully dependent on income from utilizing the land. In the same manner, the Shari'ah allows the beneficiaries to allocate a portion of the land, subject to certain conditions, to a non-beneficiary individual or institution not mentioned in the will. In short, there is ample room for deliberation and adjustments with regards to estate-distribution, even within the framework of fara'idh and wasiyyah systems. The Muslim inheritance system is neither flawed nor inadequate; instead it is extremely vast and able to accommodate all types of circumstances. Problems, if any, lies in its narrow application and in the fallibility of human nature. Greed and jealousy should not override the spirit of fairness and generosity that are encouraged in Islam. Otherwise, Muslims in Malaysia may not see the end of problems generated by uneconomic land sizes and farm operations, conversion of agricultural land to other uses (and hence, the subsequent decline of food production capabilities of the country as a whole) and ultimately, the overall erosion of Malay-Muslim land ownership and economic wealth.

CONCLUSION

A wealthy beneficiary may be persuaded to transfer their rights on the land to others less financially steady or who is fully dependent on income from utilizing the land. In the same manner, the Shari'ah allows the beneficiaries to allocate a portion of the land, subject to certain conditions, to a non-beneficiary individual or institution not mentioned in the will.

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