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Women's Access to Land as Owners: Some Implications for Development Planning

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ABSTRAK

Satu kajian telah dijalankan mengenai akses wanita terhadap tanah dalam satu daerah di Selangor. Kajian mendapati bahawa cara wanita memperolehi tanah hanya melalui perwarisan. Sementara lelaki memperolehi tanah yang dimilikki bukan sahaja melalui perwarisan tetapi juga menerusi kaedah lain seperti program peruntukan tanah oleh kerajaan dan pembelian. Analisis kuantitatif juga menunjukkan bahawa wanita yang berumur ber-kemungkinan memilikki lebih tanah daripada mereka yang muda. Wanita dari keluarga bukan-uxorilokal mempunyai akses yang lebih baik untuk memilikki tanah dibandingkan dengan mereka yang dari keluarga uxorilokal.

ABSTRACT

A study was conducted on women's access to land as owners in a district in Selangor. The study showed that women acquired land mainly through inheritances. On the other hand, in addition to inheritances, men also acquired land through government land allocation programmes and purchases. The quantitative analysis showed that older women were more likely to own land than the younger ones. Women from non-uxorilocal families had better access to land ownership than those from the uxorilocal households.

INTRODUCTION

Access to land has been operationalised as one's access to resource as owners and as farm workers (Wazir 1987). To understand the different ways by which women or men gain access to land, it is necessary to analyse the specific factors which pertain to the issue of accessibility to land ownership.

This paper presents a study of factors associated with women's access to land as owners in a Malaysian district characterised by mixed farming. It also seeks to show how land is acquired by these women. The paper first discusses the important role of women, who constitute about half the rural population, and their access to land. A study on women has been conceptualised as a study on gender (Whitehead 1979); the current study, therefore, takes into account men's access to the resource as well.

Land is a natural resource. When a piece of land is owned and has productive potential it is regarded as property. In discussing the importance of women's access to land, it would be helpful to illuminate the status of women in relation to property by the following claim by Sipila (1979):

> Women and girls who constitute 52% of the world's population are counted as 33% of the official labour force, yet they perform 67% of all hours worked. Females make up over 60% of the illiterates, receive only 10% of the world's income and own less than 1% of the world's real property.

These statistics imply that, in general, women own far less property despite their high involvement in work. It also means that in rural areas fewer women have access to land with a view to ownership. Literature on Asian and African farming shows that women are not only food producers and animal rearers. They are also involved in storage, processing and marketing of foodstuffs. Despite their high involvement in farming, it has been noted that their farming activities take place on a limited resource base such as land and land-related resources (Kandiyoti 1985). To further highlight the im-

portance of exploring women's access to land, Rogers (1980) reiterates:

> Of all resources necessary for subsistence (other than one's own labour) by far the most important is land. Without land, people lose their security and are reduced to a state of dependence on those with land for the provision of employment.

She suggests that in rural development programmes, land has always been important, not only in ecological terms but also in providing vital collateral to secure credit, access to farming inputs, extension services and to secure participation in cooperatives and other rural development schemes. In countries where agricultural production is the mainstay of the economy, rural landlessness leads to insecurity and dependence on landowners for basic subsistence.

Restricting women's access to land is a major inhibiting factor to their economic improvement and social position in agriculture; it also inhibits membership and participation in agricultural cooperatives, extension groups and associations.

In land reform and resettlement schemes, farming women can also be adversely affected by the pattern of land allocation. Studies in the Batang Ai resettlement scheme in Sarawak (Hew and Kedit 1987) and the Mahawelli resettlement scheme in Sri Lanka (Kumar 1985) support the contention that rural women might even lose their land-rights which they once held and enjoyed under traditional tenure systems. These studies showed that women not only lost their rights over land control and utilisation, but they were also relegated to domestic jobs and received less than their share in terms of economic compensation which mainly favoured the male members of the family.

A crucial concept that should be incorporated in a study on women's condition and their access to land is the distinction between practical and strategic gender needs. Molyneux (1985) defines practical gender needs as the necessity for human survival; for example, needs for food, shelter and water. On the other hand, strategic gender needs concern overcoming the subordinate role and nature of women as viewed by men, and therefore implies taking necessary measures to improve the position of women in the community. Therefore, providing women access to land is one way to meet strategic needs because it will give them a potential base and stronger position in decision-making and managing income of the family.

Factors Associated with Women's Land Ownership

Studies have indicated that there are two main systems, i.e. legal and customary, which enable women to have access to land ownership. The legal system comprises two dimensions, the religious and civil laws. In some societies it is possible for individuals to choose between religious precepts and customary law or between religious law and civil law.

In Malaysia the major means by which a farming family acquires land is through inheritance (Ahmad 1989; Stivens *et al.* forthcoming).

Under Islamic inheritance law, a woman is entitled to a prescribed share in the property of her father or husband. The only, though significant, discriminating element of this law is the provision that women get half the share of male co-heirs. However, women's share of the property is protected because of the restriction on disposal through testacy (valid will). An individual is allowed to will away only a third of the property. Sometimes, the Islamic inheritance system practises 'primogeniture', a situation in which the first-born male inherits land exclusively. But this is not always the rule.

In the state of Negeri Sembilan in Malaysia it is customary that land among the Muslims is inherited according to the matrilineal system. In this system, descent and inheritance follow the female line and adult women have usufructuary rights to land. In principle, ancestral lands even though owned individually, are inherited according to the customs of one's clan.

In India there is a large diversity of laws governing women's rights to ownership and inheritance of property (Wazir 1987). In general women have very little access to land because of the custom of patrilocality. Other related factors which lead to the lack of access of women to land ownership are exogamy and long distance marriages in which women give up their claims in favour of their brothers to maintain goodwill (Agarwal 1989).

In Sri Lanka, under the traditional Sinhalese laws or Kandyan law of inheritance, an important distinction is made as to the types of post-marital residence, i.e. whether a marriage is uxorilocal (where the husband comes to reside with his wife and in-laws) or virilocal (the woman moves out to reside with her husband's family).

A daughter of an uxorilocal marriage has the same right to inheritance in her father's ancestral estate as her brothers and unmarried sisters. The land she inherits will be jointly managed by her and her husband. A virilocal marriage custom requires her to forfeit her direct inheritance to her father's ancestral estate. However, if she is an only child she could inherit property irrespective of the kind of marriage she contracted.

In Indonesia, three main systems of law apply regarding rights to property; customary law, Muslim law and the Civil Code. Under customary law there is no single code of laws; it is made up of systems of customs applicable to different communities (Wazir 1987). In patrilineal communities only sons inherit property. This system is found in almost all regions except among the Minangkabau of West Sumatera where land is communally owned and land rights are inherited along the female line. As the population of Indonesia is mainly Muslim, over the years there has been an absorption of Islamic precepts into customary laws and in some cases Muslim law has become customary law.

The Civil Code in Indonesia was introduced by the Dutch colonial government. It tends to be the most egalitarian in the matter of inheritance law. The surviving spouse and the children equally share the inheritance.

In Thailand the law is more egalitarian between sexes in matters of property and inheritance rights (Wazir 1987). Anthropological literature shows that kinship as well as residence and the inheritance pattern are clearly defined in Thai society. It is noted that women form the core around which family relations are structured. Uxorilocal residence is the universally accepted ideal in Thai society. An unusual aspect of Thai society is the system of transmission of authority from father-in-law to son-in-law. It is the son-in-law who becomes the head of the family on the death or retirement of the father-in-law. Thus while residence is determined by females, jural authority rests with males who are outsiders to the matrilocal system.

In the Philippines the law pertaining to property and inheritance rights is influenced by the Spanish civil law (Cortess 1977 cited in Wazir 1987). Descent is patrilineal but residence is a matter of choice, with couples exercising the option. There is no discrimination in the matter of inheritance. Male and female children as well as the surviving spouse have equal rights to the property of the deceased person. A married woman retains ownership of any property that she brings into marriage.

In summary, the review shows women's access to land ownership is mainly associated with the customary factors that determine the rights of women to inherit land. These are types of post-marital residence, the age of women and the stage of the family life-cycle (old or young family), family size and the number of male and female siblings in the family. The following section will explain the methodology of a study conducted to find out the significance of these factors to women's access to land ownership.

METHODOLOGY

The study was conducted in two villages, Sungai Kelambu and Kampung Kelanang, in the district of Kuala Langat in the state of Selangor. The villages represent a typical old and new village. The district was selected as it is one of the most established farming areas in Selangor. Agriculture is characterised by mixed farming, in which oil-palm, coconut, coffee, rubber, cocoa and various food crops are predominant. The unit of analysis of this study is the couple of the household. Sampling was done in each village, based on the following criteria (a) a family, either male-headed or female-headed (b) farming is done either full-time or part-time by at least one of the female members of the household, and (c) the household has settled in the village for some time.

A list of households conforming to the above criteria was secured from the headman of each village. A random sampling yielded a total of 71 and 72 households taken from 185 and 240 farm families from Kampung Sungai Kelambu and Kampung Kelanang respectively.

The data were analysed quantitatively using t-tests, one-sample chi-square test, the Tobit analysis and simple multiple regression analysis.

FINDINGS AND DISCUSSION

The study first compared land size owned by men and women. The paired t-test results (Table 1) show that the t-values are highly significant for each village, and for the combined cases. The mean land size owned by men was significantly greater than that owned by women in the two villages by as much as nine times.

TABLE 1
Mean land size of men and women and the t-values for Sungai Kelambu and Kampung Kelanang

Village	N	Mean (acre)		t-value	p
		Men	Women		
Sungai Kelambu	62	3.932	0.319	10.89	.00
Kampung Kelanang	64	3.648	0.531	9.11	.00
Combined	126	3.787	0.427	14.09	.00

The study also examined methods by which women acquired land. Table 2 provides the frequency distribution of women who came to own land by land acquisition methods. The results clearly show that most women landowners from the two villages acquired their land through inheritance while in several cases land was acquired either through purchases or participation in land development programmes. No statistical test was required since the frequency distribution undoubtedly indicated that inheritance was the most frequent method by which women had access to land ownership.

Table 3 shows the frequency distribution of male landowners according to the various land acquisition methods. There were slight differences between the two villages. However, both villages showed that the highest frequency distribution was landowners who acquired their land through participation in the Green Revolution, Youth Land Development and Farm Youth Projects. This was represented by 59.70% and 82.80%, with a mean acreage of 2.72 and 2.07 in the respective villages. Inheritance was the second most frequent method by which men acquired land, 41.9% in Sungai Kelambu and

TABLE 2
Frequency distribution of female landowners according to land acquisition methods

Land Acquisition Methods	Freq* (%)	Mean (acre)	Mode	S.D
Sungai Kelambu (N=71)				
Inheritance	19 (100.0)	2.013	2.00	1.249
Purchase	1 (5.3)	2.0	2.00	–
Participation in land development programme	2 (10.5)	2.0	2.00	–
Kampung Kelanang (N=72)				
Inheritance	28 (100.0)	1.582	0.50	1.454
Purchase	2 (7.1)	1.00	1.00	–
Participation in land development programme	3 (10.7)	1.67	2.00	0.577

* The frequencies and percentages are not additive due to multiple responses of a respondent.

TABLE 3
Frequency distribution of male landowners according to land acquisition methods

Land Acquisition Methods	Freq* (%)	Mean (acre)	Mode	S.D
Sungai Kelambu (N=62)				
Inheritance	26 (41.90)	1.60	1.60	0.99
Purchase	21 (33.90)	1.43	1.00	4.95
Participation in land development programme	37 (59.70)	2.72	2.00	1.54
Kampung Kelanang (N=64)				
Inheritance	40 (62.50)	1.63	1.00	1.16
Purchase	13 (20.30)	4.01	3.00	2.48
Participation in land development programme	53 (82.80)	2.07	2.00	0.40

*The frequencies and percentages are not additive due to multiple responses of a respondent.

62.5% in Kampung Kelanang with a mean acreage of 1.60 and 1.63 respectively. It was noted that a high mean acreage of land acquired in Kampung Kelanang was through purchases. This could be attributed to the occupation of the male respondents, and to a lesser extent, to the steady family income which came from government pensioners who made up 29% of the households. Kampung Kelanang showed a higher mean monthly family income of 721.67 ringgit. There were no government pensioners in Sungai Kelambu and the mean monthly income was lower at 685.20 ringgit which accrued seasonally. Tables 2 and 3 show differentiated access to land acquisition. Many men had access to multiple methods of land acquisition while land acquisition among women was almost solely through inheritance. The high accessibility to several land acquisition methods to men could explain why the earlier results showed that men generally owned a far greater land acreage than women. This difference could also be seen from the point of view of inheritance. Since inheritance was the only important means by which women could acquire land, the proportion that a female heir was generally entitled to inherit (from her parents' land) is half the share of male co-heirs. A widow will receive one-quarter of her deceased husband's estate if there was no issue, and one-eighth if there was (Ahmad 1989).[1] The share of the land a woman could inherit, therefore, depended on the number of male siblings or sons.

The study also found that women's access to land through land development programmes was very low because it was the policy of govern-

1. This does not imply that the differential access of women to land ownership was due to religious bias. In fact, almost all women landowners in this study acquired their land by means of inheritance, the only way in which religious rule is being exercised. Other methods of land acquisition — purchases and land provisions by government-proceeded without adhering to religious precepts.

ment to select programme participants based on the head of the household. Since it is a norm in the society that the head of a family is the male (husband), therefore the title of the land received through land development programmes was in the husband's name, unless the family was headed by the wife (a widow or a divorcee).

The study also showed that about half of the female landowners received land which was left by their deceased husbands. This is termed inheritance on death. Other female landowners also received land as a donation or gift before death, normally from their parents. Inheritance has long been practised in many places in Malaysia since the advent of Islam in the country (Maxwell 1884; Ahmad 1989).

Inheritance as the major method by which women gain access to land ownership was also found in a study carried out in Baling among farming households (Stivens *et al.* forthcoming). In this study, however, more men than women received their land solely through inheritance. Therefore, it could be concluded that although inheritance was the major means by which women acquired their land, male heirs were found to exceed the number of female heirs. The average size of land they inherited was also larger than the female portion. This reflects the method of sub-division as governed by the religious law. These data confirm the findings of Fujimoto (1983) among the rice farmers in Province Wellesley and Kelantan where there were more male landowners than female landowners. The system of land ownership in the study area, and generally in the state of Selangor, is based on the non-matrilineal system, contrary to what is being practised in the state of Negeri Sembilan and in some parts of Melaka. For example, land ownership among the male and female smallholders in Negeri Sembilan was 47% and 53%, in Melaka it was 46% and 54%, whilst in Selangor male land ownership exceeded that of female, the percentage being 65 and 35 respectively (CPR-RISDA 1983).

It is a common phenomenon in Malaysia and in other countries such as India and Indonesia that only a small proportion of the population has its land ownership patterned after the female owners. For example, in India only in the State of Kerala do women enjoy a greater share in terms of land ownership (Wazir 1988); and in Indonesia the matrilineal system of land ownership can only be found in the limited areas of the Minangkabau community of west Sumatera (Wazir 1987).

The data were further analysed to find whether there were relationships between the selected socio-economic factors such as length of residence, family size, age of women, family income, family phase, types of family head and types of post-marital residence and land size owned by women. These research questions were answered using the Tobit analysis. This statistical tool was considered appropriate because the distribution of women who owned land was a truncated normal (Amemiya 1973; 1987).[2]

Table 4 shows the results of the Tobit analysis. An overall test of significance was performed by using the likelihood ratio test. The unrestricted model had seven independent variables and the restricted model had only the constant. The logarithm of the likelihood ratio obtained was 15.18 which gave a test statistic of 30.36, distributed as a chi-square statistic with seven degrees of freedom. The critical value for chi-square at 5% probability, df=7 is 14.07. Hence, the null hypothesis that the set of independent variables did not influence the land acreage owned by women was rejected at that probability level.

The results of the Tobit analysis show that the age of women, type of family head and type of post-marital residence were contributory factors to land acreage owned by women. These are shown by the t-values and the standard errors which are smaller than their respective coefficients. The significant and positive sign of age shows that older women were more likely to have greater land size than the younger ones, other variables being constant. The elasticity E(y) for age shows that a 1% increase in age increased the expected acreage owned by women

2 The Tobit analysis was used to explain the relationship between the independent variables and the land acreage owned by women. The choice of this model was based on the preliminary results that only 32.8% of the total women respondents owned land. Hence, the dependent variable of interest (land acreage) was truncated. This means that a larger number of female landowners was concentrated at the lower limit of zero (owned no land).

TABLE 4
Results of the Tobit analysis on women's land acreage

Independent Variable	Coef.	SE	Asymptotic "t"	Elasticity Index	E(y)
Length of Residence	0.0123	0.0069	0.8025	0.7689	0.3167
Family Size	0.0389	0.0361	0.4873	0.5226	0.2152
Age	0.0538	0.0124	1.9587	4.3821	1.8047
Family Income	0.0020	0.0032	0.2827	0.2349	0.0968
Family Phase	-0.2060	0.1827	-0.5088		
Head of Family	2.4793	0.3311	3.3785		
Post-marital Residence	-1.8487	0.3054	-2.7316		
Constant	-2.9052	0.6818	-1.9226		

Log of likelihood function:
Unrestricted model = -147.8584
Restricted model (with constant only) = -163.0330
$-2 \ln \lambda = 30.35^*$ at χ^2, df = 7
(0.05)

Notes:
Number of limit observations = 96 (women without land)
Number of non-limit observations = 47 (women with land)

The elasticities with respect to dummy variables have no meaningful interpretation and were left out.

*Significant at 0.05 level.

by 1.80%. Similarly, the significant and positive sign of coefficient of head of family (a dummy variable when male-headed was given a value of 1 and female-headed as 0) shows that the type of family is positively related to land acreage owned by women. This also implies that women from male-headed families were more likely to have access to land ownership compared to those from the female-headed families. This is because a larger number of families was headed by men in the villagers (88.1%) than by women (11.9%); hence the chances of women from the male-headed families inheriting land are greater than those from the female-headed families.

Types of post-marital residence showed a significant but negative relationship with women's land acreage. The results suggest that as the number of women with an uxorilocal type of post-marital residence increased, the number of women who owned land would decrease. This also means that women with non-uxorilocal types of post-marital residence (virilocal, where spouses were local and spouses were migrants) were the related factors contributing to their access to land ownership. The frequency distribution of women landowners according to the four types of post-marital residence reveals that the test was significant. Women landowners whose spouses came from the same village tended more often to own land than the other groups (see Table 5).

The Tobit analysis also indicates that other variables such as length of residence, family size, family income and family phase did not appear to be important in women's access to land ownership.

The multiple regression results as shown in Table 6, on the other hand, explain factors contributing to men's land ownership. The overall R-square obtained is 0.2341, with an ad-

TABLE 5
Distribution and chi-square results of women landowners according to types of post-marital residence

Types of Post-Marital Residence[a/]					Chi Square Value	df	p
1	2	3	4	N			
10 (21.3)	3 (6.4)	7 (14.9)	27 (57.4)	47 (100)	28.49	2	0.00

a/ 1 - uxorilocal, 2 - virilocal, 3 - migrant, 4 - local.
(Value in the parenthesis is the percentage)

justed R-square of 0.1747. Attention is focused on the adjusted R-square rather than the ordinary R-square because the former takes into account the degrees of freedom. The adjusted R-square of 0.1747 means that about 18% of the variance in the land acreage owned by men is jointly explained by the nine independent variables used in the regression equation. The standard error of the estimate is 2.2788. It is actually an estimate of the standard deviation of the error term, u.

The ANOVA of the regression shows that the F ratio of 3.9401 is significant at $p < 0.05$. This indicates that the coefficient of multiple regression, R-square is significantly different from zero and the model used is statistically sound.

The multiple regression analysis also shows that among the independent variables, only family income (beta value of 0.4643) was found to be significantly associated with land acreage owned by men, while other variables were held constant. The beta value of 0.4643 shows that for every standard deviation unit increase in land acreage owned by men (dependent variable) there was an associated increase of 0.4643 in family income. This also means that family income could explain the variance in men's land acreage. Other variables did not indicate any significant association with men's land ownership.

The Tobit analysis shows that three factors had significant association with women's land ownership. The variables were types of family head, types of post-marital residence and women's age. The data on women with an uxorilocal type of post-marital residence have a negative relationship with land ownership. This suggests that women from non-uxorilocal families (virilocal, migrant and local) had better access to land ownership in the area.

The data from this study did not support the claim that women from uxorilocal families tend to have access to land ownership. Instead, the data indicate that when both spouses hail from the same mukim or village (57.4%) the statistics were found to be predominantly significant. This condition contradicts the findings in the Sri Lankan and Indian studies where women from uxorilocal families and men from virilocal families were found to have better access to land ownership (Wazir 1987, 1988; Agarwal 1988). The contrast could be due to dissimilarities in cultural and environmental situations as less population pressure prevailed in the current study area when compared to that in Sri Lanka and India. The negative relationship between uxorilocal women and land size they owned would also imply that women in this study forfeited their rights or chances to own land if they married outsiders.

The strong influence of place of origin particularly of both spouses, and subsequently residence after marriage, seemed to be an important factor in this study due to the following reasons: First, place of origin (of both the spouses) was one of the desired criteria for the selection of the participants for formal land development programmes in Kuala Langat. Second, in terms of willingness of parents to transfer their land, both female and male heirs who stayed in the same locality were preferred to those where either of the spouses stayed far away. This has some connection with rendering care to parents in their old age especially by both sons or daughters-in-law who are from the same village. Third, being a farming commu-

TABLE 6
Results of multiple regression analysis of men's land acreage as the dependent variable

Independent Variable	Dependent Variable (Land Acreage) Beta	Sig T
Length of Residence	0.1832	0.0966
Family Size	0.0327	0.7132
Age	0.0441	0.6532
Family Income	0.4643	0.0000
Family Phase		
Nuclear	0.0356	0.8317
Extended	0.0607	0.6993
Post-marital Residence:		
Uxorilocal	-0.0389	0.6563
Virilocal	0.1342	0.1291
Migrant	0.0475	0.6072
Constant	-0.4503	0.7766

Multiple R	=	0.4839
R Square	=	0.2341
Adjusted R Square	=	0.1747
Standard Error	=	2.2788

Analysis of Variance

	DF	Sum of Square	Mean Square
Regression	9	184.1552	20.4617
Residual	116	602.3532	5.1927

F = 3.9401* Significant F = 0.0002

* Significant at the five per cent level.

nity, endogamous marriages were found to be quite common in the villages. Although many men migrated to towns for employment, they did so after their marriage, and their migratory stay was temporary as they eventually came back to the village upon retirement.

Another important area which the study examined to portray gender relations among the female landowners was the types of family head they were subject to, whether it was a male-headed or a female-headed family. As a whole, the Tobit analysis confirmed that women from male-headed households related positively with land acreage. This means that more women from male-headed families owned land than those from the female-headed families. This could be attributed to the far larger number of male-headed families than female-headed families. Among the women landowners, however, the study revealed that about a quarter came from female-headed families. The distribution of households based on this demographic characteristic concurred with the findings of a study conducted in two villages of Perak and Pahang (Ng 1985). However, its presence across the Asia-Pacific regions was 18% to 22% (RAPA/FAO 1985).

Most of the women from these households were widowed, while a small percentage of them had been divorced. All of them were *de jure* female-headed households. They participated actively in farm work either as owner-operators, wage workers in other people's land, or co-workers in their children's farms; a very small percentage were share-croppers. The significant effects of family income on men's land size, and women's age on their land size were then linked with land acquisition methods. This could be

further explained when several characteristics of the households are brought into discussion simultaneously. The nature of employment, size of land the family owned, and the family income, were three factors which could be used to illustrate the relationships between methods of acquiring land and the significant effects of family income and age of women on land sizes.

Mixed farming, with oil-palm as the major crop, was generally the main type of occupation of the household heads in the study villages. This was indicated by the fact that more than 90% of household heads were involved in such farming. In addition, the average family land size was 4.7 and 4.2 acres respectively for Sungai Kelambu and Kampung Kelanang, which raised the income of the households far above the poverty line. This was explicitly shown by the data that the average monthly income for the two villages was 703.57 ringgit per family.

When farming families are financially strong (as was seen in the study) there is a tendency for them to accumulate farming land, either through their participation in land development schemes, or to acquire land through purchases. In Sungai Kelambu 66% of the landowners were participants of either the Green Revolution Programmes or the Youth Land Development Schemes, which were situated in Sungai Lang, Kanchong Darat and Bukit Changgang. As for Kampung Kelanang, 75% of the landowners participated in the Green Revolution Programmes of Tanjung Medan, Gelanggang Buaya and Sungai Antu. As discussed earlier, male landowners acquired land mainly through government land development programmes and purchases. This clearly indicates a strong correlation between participation in land development programmes, family income and male land ownership.

The significant and positive relationship between age of women and land ownership merits special focus. This has a strong connection with inheritance (as discussed earlier) in which inheritance was the most important means by which women acquire land. Women inherited land from their deceased husbands and parents. Even though the age of women had a significant association with their land size, and since there was a co-linearity between age and types of family phase, the influence of age was weaker than that of the family phase on women's land size.

The phenomenon that land provision is mainly to male titlement has been much discussed in the literature. This has been so since it is one of the manifestations of the policy adopted in many land development programmes, but it has failed to address the question of fair allocation of land titles or ownership rights, irrespective of male or female recipients.

The success of a rural project is achieved through the direct function of participation of the people involved (Chambers 1983). If women were denied the right to be formal recipients, or at least, the formal participants in the project which they are heavily involved (Maimunah 1992) this could probably lead to the failure of the project. For example, the African experience in the state of Gambia has proved that the short life-span of the Gambian rice irrigation project was partially rooted in the failure of women to gain access to own the developed rice land. The crux of the problem lies in the fact that the policy in the rice land development project had totally ignored women's customary control and ownership over rice production and their long-established rights in food production (Carney 1989).

A gender bias favouring men in land allotment is also found in the Mahaweli Irrigation Programme in Sri Lanka (Agarwal 1988). She found that land allotted to married couples was registered only in the name of the husband who was assumed to be the head of the household. Women only applied for land if there was a minimum chance for male members of their families obtaining a lot. Without land titles women farmers were deprived of control over crops and farm earnings. They experienced loss of kin support, and they had to increase their work burden in order to have a balance of participation in the programme.

Similar fallout in the land development programme was also noted in the state of Sarawak in Malaysia in which SALCRA's policy of one certificate of ownership to a household has meant that Iban women's traditional rights over land have been abrogated, creating a strong dependency relationship of women on men. Policy failure to formally incorporate women into the new system of plantation agriculture has also eroded women's traditional equality with men in the sphere of farming production (Hew and Kedit,1987).

The fairly strong association between family income and size of land owned by men in the

study villages can be explained by the fact that a large percentage of land owned by men was acquired through purchase. As income increases there is also an increase in the purchasing power of the households of this immovable resource. But the proportion of increase is significant only in the accumulation of land owned by men. The finding further implies that women in both villages could not increase their land acreage through purchases as most of the time when a family bought a piece of land it was undoubtedly registered under the husband's name.

CONCLUSIONS AND RECOMMENDATIONS

The study concludes that women were identified as having less access to land as owners compared to men. The study also revealed that despite the much larger number of male compared to female landowners, and the variations in the distribution of female and male landowners with respect to the methods of land acquisition, factors that are significantly associated with women's and men's land acreage vary. Age, types of family head and types of post-marital residence were found to have significant relationship with women while family income was the only variable that had significant associations with men. The specific conclusions of the study are as follows:

1. Men predominated over women in terms of land ownership not only numerically but also in terms of absolute land size.
2. Men had more means to land accessibility, through inheritances, government provisions and purchases. These three approaches allowed them to acquire land effectively. In contrast, inheritance was the only way women gained access to land ownership.
3. Women acquired land through inheritance primarily after the death of their husbands, or received land as gifts from parents before death based on customary procedures. It is thus not surprising that the age of women was found to be significantly and positively related to the size of land they owned.
4. Three socio-economic variables were found to have significant association with women's land acreage. The variables were age, types of family head and types of post-marital residence. Family income was only significantly related to land acreage owned by men.
5. When both spouses originated from the same village, female landowners had better access to land ownership than those from other types of post-marital residence. Similarly, women from male-headed families had better access to land ownership than women from female-headed families.

Even though the factors that contributed to women's land ownership were culturally-related which are non-manipulatable, these situations can be used as "givens" that planners and policy-makers alike should bear in mind when formulating programmes for women. But at the structural or planning stage, there should be a fairer policy in terms of allowing more women, particularly in the single-headed households, to participate in land development programmes irrespective of the number of male or female dependents they have. As it is, current policy emphasises women with sons only.

Since inheritance was found to be the most important method by which women gain access to land ownership, it is therefore recommended that the administration of land transmission process should be made more efficient. One suggestion is related to record keeping. The abundance of data on land at the land office should be computerized. This will then facilitate the handling, monitoring and its general administration such as in land transfer and transmission. Data should also be kept according to the various socio-economic, factors such as male or female owners, land with or without surviving owners and types of cultivation, and land which is being operated or left idle.

A methodological implication in extension service (and for other disciplines too) is the use of a separate analysis of the data of men and women. Quantitative socio-economic data on women are often different from those on men which are believed to be rooted in the phenomenon of an unequal relation between the two. This is, for example, on access to and ownership of property, educational attainment, and types of employment and the remuneration patterns. This study shows that different types of analytical tools could be used to examine the relationship of the selected factors to land ownership arising from the different characteristics of the data.

The study provides some recommendations for future research. A comparative study is needed on women's access to land ownership between those in mixed farming with oil-palm as the major cash crop and those in mixed farming with cash crops other than oil-palm. This would be useful if recommendations are to be made as to how to design projects suited to various farming settings.

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