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thattumaru kattimaru

SYSTEMS OF LAND TENURE

M.P. Moore

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AGRARIAN RESEARCH AND TRAINING INSTITUTE

2009/06
2010/04

THATTUMARU - KATTIMARU
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Research Study Series No. 26

July 1978.

AGRARIAN RESEARCH AND TRAINING INSTITUTE
114, Wijerama Mawatha, Colombo 7.

22814

cover design - Harold Pieris. Printed at Agrarian Research and
photograph - Shantha Weerasinghe Training Institute

F O R E W O R D

Thattumaru and Kattimaru systems of land tenure are peculiar to certain parts of this country, viz., the low and mid-country wet zone. Even in those areas the operation of the system very often varies from village to village.

The origin and the history of this system of land tenure are yet unknown. Not much research work has also been done in this field, but the few studies done have shown that the low productivity of those lands is mainly due to the prevalence of this practice. Unfortunately, no concerted effort has been made so far to end this land tenure system which is considered to be detrimental to the paddy production in the area.

This study is an outgrowth of a larger project titled "Productive Labour Absorption in the Small Farm Sector in the Wet Zone in Sri Lanka," - a joint research project between the Agrarian Research and Training Institute and the Institute of Development Studies, University of Sussex, England. It provides a detailed and comprehensive analysis of the system with a review of the available major writings on the subject. It also shows the causality behind its survival.

Mr. M.P. Moore of the Institute of Development Studies, who is attached to the ARTI at present, and Mr. G. Wickramasinghe, Research and Training Officer, were responsible for the preparation of this document.

I trust that this publication will be useful for those who are interested in the systems of land tenure prevalent in this country.

T.B. Subasinghe
Director.

ACKNOWLEDGEMENTS

This paper is a by-product of a research project into agricultural employment in the low country wet zone. While doing field research for that project the authors were struck by the apparent strength of villagers' dislike for the Thattumaru and Kattimaru land tenure systems. This led to a more detailed investigation of the literature already available, of the sociological aspects of the system in the field, and of its consequences for production and employment.

The research was supported by the Agrarian Research and Training Institute and the Economic and Social Committee for Overseas Research, Ministry of Overseas Development, U.K. The authors are indebted to R.L.G. Dharmawickreme, U.A. Hemachandra, V. Samson, W.M. Wijepala and P.M. Wimalasiri for assistance in collecting field data, to Mr. W.D. Ailapperume and Mr. I.K. Weerawardena for useful comments on an earlier draft, and to Mrs. Jacintha Fernandez for her excellent typing.

M.P. Moore

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S U M M A R Y

(i) The nature and the consequences of the Thattumaru-Kattimaru system differ widely from one area to another. Conclusions based on case studies is only one village may be very misleading. This paper is based on a comparison of five village case studies, and hopefully leads to conclusions which are generally valid.

(ii) Thattumaru-Kattimaru is a regional phenomenon, and is concentrated around the low and mid-country wet zone. It is slowly dying out, but tends to survive most tenaciously in areas relatively unaffected by urban influences where agriculture remains the predominant occupation.

(iii) The Thattumaru-Kattimaru system was appropriate to the social, technical and economic characteristics of paddy cultivation in the past. However, today it is totally inappropriate, and reduces levels of fertilizer use, yields, employment and innovativeness in paddy cultivation.

(iv) Villagers are well aware of the detrimental effects of the system and dislike it because of its adverse effects on cultivation and because it is a source of dispute and conflict.

(v) Thattumaru-Kattimaru cases persist largely because of the absence of institutions for effecting fair, cheap, speedy and legally valid partitions.

(vi) Whatever government decides to do about Thattumaru-Kattimaru, the system is so complex and the problems of partition such that some cases may persist for a very long time. There are however good grounds for believing that, were the appropriate institutions set up to effect partition, many cases would be divided up by voluntary agreement of a majority of shareholders.

(vii) Considerations should be given to means of expediting the disappearance of the system by establishing the appropriate legal institutions.

I. INTRODUCTION

The essence of Thattumaru-Kattimaru land tenure is the annual rotation between persons of rights to cultivate a given piece of land. The system appears to be unique to the Sinhalese areas of Sri Lanka, and applies only to paddy land. It has not been researched in much detail, and we remain in considerable ignorance about its origin, history, operation and consequences. However, the few pieces of detailed research which we have been conducted have generated strong and conflicting views about the value of the system. In part this dispute arises because each case study has been focused on a single village. We demonstrate below that the history and present mode of operation of this tenure system vary widely even from village to village within the same area; generalisations based on single case studies may mislead. The disagreement among researchers also reflects a further factor : the widespread ambiguity in villagers' attitudes towards Thattumaru-Kattimaru. We give evidence below that villagers are generally ready to condemn the system for its adverse effects on standards of husbandry and for the disputes which it engenders ; they usually express a willingness to abolish it. Yet their enthusiasm for abolition recedes considerably when they are asked to contemplate changes - or even sacrifices - in their own rights in paddy land. The complexity of the system is such that in practice villagers tend to steer clear of the problems and conflicts incurred in putting an end to it by legal partition. The researcher's attitude is similarly coloured according to whether his prime concern is the improvement of paddy cultivation or the place of land tenure in rural social structure.

By analysing information from the three published case studies of Thattumaru-Kattimaru and adding two more of our own, the authors hope to present as balanced a view of the system and its consequences as is possible within the constraints of shortage of data.

2. TERMINOLOGY

A substantial proportion of the published work on Thattumaru-Kattimaru is devoted to discussion of terminology.¹ Apart from disagreements about the derivations of the various Sinhala words used in connection with the system, the picture is muddled by the fact that the terms used by villagers (and thus observers) are both imprecise and variable from one locality to another. Explanation is further impeded by the variety and complexity of the manifestations of the system. It is not always easy to discern through the confusions of reality the two simple logical principles - the Thattumaru principle and the Kattimaru principle - around which the system revolves.

The present authors have neither the learning nor the inclination to contribute to the literature on the derivations and local variations in the terms used by villagers to refer to aspects of the system. By first explaining and then consistently using a number of terms which appear to be fairly standard, we hope to reduce to a minimum the problems faced by the reader in grasping the nature of the system.

- (1) *The Thattumaru principle* is that rights to cultivate a piece of paddy land are shared among two or more persons in annual rotation. Instead of physically dividing the land, the persons with cultivation rights (henceforth *shareholders*) take turns to cultivate the land each year. In the simplest case possible, a man leaves a plot of land to his two children, one cultivating in the 1977-78 agricultural year (comprising two paddy seasons in most of Sri Lanka), the next in the 1978-79 year, and so on. The order of cultivation is normally determined by age, the oldest having the first opportunity. One of the several interpretations of the origin of the term "Thattumaru" is most expressive : it is "having a knock at the paddy land".² The purpose behind the adoption of this principle is quite clear : it aims to prevent the sub-division of plots into units which are inconveniently small.
- (11) *The Kattimaru principle* - In this case, land is sub-divided at the death (or retirement) of its owner, but each heir inherits, instead of permanent ownership rights to a particular plot, the right to cultivate in turn each of the plots into which the *estate* has been divided. In the simplest case, a man divides his paddy field into two plots, A and B ; in the 1977-78 agricultural year his son Peter cultivates plot A, and his other son James uses plot B; the cycle is then repeated. In principle any number of shareholders may be involved. The number of plots is always the same as the number of years taken to complete the cycle; the number of shareholders is usually the same, but may be less. For example, an estate may be divided into seven plots, but one person may hold four shares, and thus cultivate four different plots each year. In some cases Kattimaru arose when one field was divided into several contiguous

plots; equally common are cases of the kind where a man owned, for example, three paddy plots in different parts of his village, and assigned them in Kattimaru to each of three heirs. The logic behind the Kattimaru principle is that of equalisation of chances of good or bad harvests in an environment where the relative value of different fields varies from year to year according to such factors as soil quality, water supply, and the incidence of attacks from wild animals and pests.

(III) *Combined Thattumaru-Kattimaru*. Simple cases of Thattumaru and Kattimaru, of the kind outlined above, are logically and practically easily recognisable. Logic and clarity are however no more prominent in the arrangements which people make to cultivate land than they are in the operations of the world more generally. According to the evidence which we summarise in Table 6, the Thattumaru and Kattimaru principles are most commonly encountered operating jointly in a single case. An example of what this means in practice is given in Section 3 below. It is these cases of *Combined Thattumaru-Kattimaru*, rather than cases of *Simple Thattumaru* or *Simple Kattimaru*, which cause most difficulties in explaining and understanding the system.

(IV) *The Thattumaru-Kattimaru system* is a term used to refer to the whole complex of principles and all cases of their application. For the sake of readability we have normally used the term *rotational tenure* in its place.

One might note that it is not strictly necessary to make a rigid distinction between the Thattumaru and the Kattimaru principles as we have done. An alternative view point is that a Kattimaru case is but the application of the Thattumaru principle in a co-ordinated way to several separate plots of land. The fact that one can take this view appears to explain why in some areas the same term is used for both Thattumaru and Kattimaru. This alternative view is not wrong but, as will become apparent, it makes discussion and analysis of the system less clear. For these reasons we shall distinguish clearly between the two principles.

3. A CASE STUDY OF COMBINED THATTUMARU-KATTIMARU

We hope that this case study will illumine the picture considerably and encourage the by-now-confused reader to persevere. This case, which is drawn from real life, is of modest complexity.

The case appears to have its origin somewhere in the period 1865-1885 with the grandfathers of a generate now either dead or aged more than fifty years. Two men, from the Peduruhewa (PH) and Lokuliyanage (LL) families respectively, worked together to asswedumise (i.e. make) a paddy field from land previously jungle. The field stretches along the bottom of a small valley, is long and narrow, and varies considerably in fertility from one part to the next. The two founders divided the land into three plots A, B and C of 1.67, 1.67 and 1.25 acres respectively.

They worked plots A and B on the Kattimaru principle and plot C on the Thattumaru principle. The original arrangement may be depicted as follows : -

	Plot A	Plot B	Plot C
Year 1	LL	PH	LL
Year 2	PH	LL	PH

The cycle is only two years, and in this time each shareholder cultivates each plot. At this stage we are not, strictly speaking, dealing with a case of Combined Thattumaru-Kattimaru : The Thattumaru rotation on Plot C is quite separate from the Kattimaru arrangements on Plots A and B.

Each of the founders handed on their shares to a sole heir, and thus the system continued unchanged in the second generation. It is in the third generation that the complications begin. The entire PH family share was handed intact to a female, P.H. Jasinona, as her dowry. The LL share was however divided among seven siblings, whom we will for simplicity call LL 1 - LL 7. The siblings did not however inherit equally; their father had other paddy land and the less favoured were compensated elsewhere. LL 1 inherited all the family's Thattumaru rights in Plot C; the family's rights in Plots A and B were sub-divided into six shares : each sibling took one share, except LL 2 and LL 3, who each took half a share, dividing the plot between them when it was their turn to cultivate. In order to accommodate this sub-division of the LL share into six, the Thattumaru principle was grafted into the Kattimaru principle already operating on plots A and B. The new arrangement, now a case of Combined Thattumaru-Kattimaru on plots A and B, was as follows : -

	Plot A	Plot B	Plot C
Year 1	LL 1	PH	LL 1
Year 2	PH	LL 2 & LL 3	PH
Year 3	LL 4	PH	LL 1
Year 4	PH	LL 5	PH
Year 5	LL 6	PH	LL 1
Year 6	PH	LL 7	PH

The Kattimaru principle that each shareholder should have a turn at each plot has not been fully applied in the Combined Thattumaru-Kattimaru case on plots A and B : LL 1 never cultivates plot B, LL 2 and LL 3 never cultivate plot A, etc. To have applied the principle strictly would have involved a much longer cycle, and plots A and B are anyway of equal size. The rotation on plot C was still at this stage completely separate from the rotation on plots A and B.

At the present day the three plots have become united and are best viewed as a single case. This has come about because the sole owners of the

PH family share, P.H. Jasinona, has left the village and has given her share in all three plots on *ande* (share-cropping) to her brother and brother-in-law, P.H. Carolis and M.H. Hemasiri respectively. In the years that P.H. Jasinona has the right to cultivate only one plot (B), that is divided equally and given on *ande* to Carolis and Hemasiri. In the other years when she has the right to two plots (always A and C), she gives the first on *ande* to Hemasiri, and the second to Carolis; the two plots are of unequal size.

The LL shares have been dispersed by purchase or marriage; only two persons bearing the name LL now have rights in this field. The current arrangement is as follows : -

	Plot A	Plot B	Plot C
Year 1	Owner-cultivator; S.T. Raynis*	Owner: P.H. Jasinona Tenants: M.H. Hema- siri and P.H. Carolis	Owner: L.L. Alis Nona* Tenant : LL 6
Year 2	Owner: P.H.Jasinona Tenant: M.H. Hema- siri	Owner-cultivators: M.H. Sarlis* and M.A. Seemon**	Owner: P.H. Jasinona Tenant: P.H. Carolis
Year 3	Owner-cultivator: A.G. Peter*	Owner: P.H. Jasinona Tenants: M.H. Hema- siri and P.H. Carolis	Owner: L.L. Alisnona Tenant : LL 6
Year 4	Owner: P.H.Jasinona Tenant: M.H.Hemasiri	Owner-cultivator: S.T. Raynis**	Owner: P.H.Jasinona Tenant:P.H.Carolis
Year 5	Owner-cultivator: LL 6	Owner: P.H.Jasinona Tenants: M.H.Hema- siri and P.H.Carolis	Owner: L.L.Alisnona Tenant : LL 6
Year 6	Owner: P.H.Jasinona Tenant: M.H.Hemasiri	Owner-cultivator: S.T. Raynis**	Owner: P.H.Jasinona Tenant: P.H.Carolis

* LL share obtained by inheritance or as dowry.

** LL share obtained by purchase.

The total estate of three plots covers 4.58 acres. There are seven persons with ownership rights; their shares in the total estate may be expressed

fractionally as follows : P.H. Jasincna - $\frac{1}{2}$; S.T. Raynis - 12/66;
M.H. Sarlis - 2/66; M.A. Seeman - 2/66; A.G. Peter - 4/66;
L.L. Alisnona - 9/66.

4. THE SYSTEM IN OPERATION

Apart from the straightforward cases of Simple Thattumaru and Simple Kattimaru, almost every case has its own distinctive features and history. The range of complexity is enormous : the most complex case on record seems to be one of Combined Thattumaru-Kattimaru covering 2.08 acres, with 479 shareholders and a cycle of sixteen years.³ Those fascinated by the detail of the development of individual cases will find plenty to amuse them in the carefully recounted case studies by Obeysekere and Weerawardena and Collonnege. Considerations of space prevent us from presenting further case studies here. The one above, however, provides illustrations or hints of some of the more important aspects of the actual operation of the system : -

- (i) Sinhalese culture accommodates considerable variations, over both time and space, in inheritance practices. A universal characteristic is however the considerable discretion permitted a testator in deciding which children should inherit property and in what proportion. A clear example of this is given above in the sub-division of the LL family share. This discretion appears to have been employed to a considerable extent to limit the extent of proliferation of shares in Thattumaru-Kattimaru. Had all heirs, or even all male heirs, normally inherited a share of each piece of land owned by their ancestors, the general level of complexity of the system would be far higher than it actually is.
- (ii) The system is fully commercialised : Thattumaru-Kattimaru shares are purchased and sold in the same way as individually-owned land. In our case study, S.T. Raynis obtained one of the six LL family shares as part of his wife's dowry, and then purchased two others. Purchase often serves to amalgamate shares, and thus, once again, to limit the complexity of individual cases.
- (iii) A considerable amount of land under Thattumaru-Kattimaru is cultivated by *ande* tenants. This too helps to simplify the actual operation of the system, since two or more owners may let their shares to a single tenant. This is indeed inevitable once shares become very small, since the areas which individuals are entitled to cultivate often become ridiculously small.
- (iv) Where shares are very small, owners may not only forego the right to cultivate, but may even forego their rent provided that some token acknowledgement is made of their ownership right. Owners of small shares are typically more zealous about calculating their nominal ownership rights than about asserting their claims to the harvest.

- (v) When a single share is inherited by more than one person, it may be given either in the form of a further Thattumaru rotation or the land may be physically sub-divided among the heirs on each occasion. In our case study, both methods were used in the sub-division of the LL family share.
- (vi) While major changes in the operation of any given case require the consent of all shareholders, the majority of adaptations affect only a small number of shareholders, and may be effected without the consent or sometimes even without the knowledge of other shareholders.

In summary, it is clear that while cultural norms establish a certain framework within which Thattumaru-Kattimaru land is to be passed from generation to generation, villagers are very far from being blind slaves to cultural 'rules'. The institutions of discretionary inheritance, commercialisation of shares, and *ande* tenure provide for the possibility of both marginal and radical changes in the patterns in which any single estate is owned or operated.

5. THE SYSTEM IN ITS CONTEXT

As far as we are aware, there is no equivalent anywhere outside the Sinhalese areas of Sri Lanka of rotational tenure. We have no explanation of why the system should be totally absent from the similar physical and social environments of other rice-growing areas of South and South East Asia. It is therefore impossible to explain the origin of the system. It is however, possible to relate the system to the environment in which it originated and has developed.

In the first place, we can be fairly confident in saying that the majority of individual cases of rotational tenure originated fairly recently, say, within the last two to four generations, or between 50-100 years ago. This is scarcely surprising, since the population and the acreage of paddy land also expanded considerably over the period. In their study of the village with perhaps the most complex Thattumaru-Kattimaru cases known, Weerawardena and Collonnege date the main cases back four to six generations, which suggests the late seventeenth or eighteenth centuries. Obeysekere dates the origin of the case he studied to 1970 at the latest, and possibly much earlier. It seems almost certain that very few cases can have originated before the period of European rule, which commenced in parts of the Island - and especially in those parts where the Thattumaru-Kattimaru system is most widespread - at around the end of the sixteenth century. The institution itself may pre-date foreign rule, but its physical spread took place under colonial regimes.

We thus know very little about the chronological spread of Thattumaru-Kattimaru; a major research job remains to be done. However, even in ignorance of dates, we can reconstruct the kind of environment within which the system originated and developed and, in that sense, make some contribution towards 'explaining' it. Our reconstruction is to a considerable extent speculative and based on logical deduction from a few known facts. It seems however to provide a rationalisation for both the popularity of Thattumaru-Kattimaru in the past and its current unpopularity with farmers. We know of no other theory which fits the facts so well.

Our reconstruction takes as its starting point the fact of a long-term population increase over several centuries. The second related fact is that the area of paddy land has increased far more slowly than population. We therefore know that in the past, (which may be taken to mean any point of time between, say, 1700 and 1940), paddy land was relatively more abundant than today, and labour more scarce. If we relate this simple fact to what older villagers say about the way paddy cultivation practices have changed in their lifetimes, we are able to reconstruct the economic and physical environment of paddy cultivation in the past. There are two features of this environment which are especially relevant to the evolution of the Thattumaru-Kattimaru system. The first is that, compared to the present day situation, labour rather than land was the scarce factor. Therefore, the techniques of cultivation were what is called 'land-extensive', i.e., the focus was on making the best use of scarce labour rather than on maximising the yield on each acre of land. For this reason, there were three important differences between cultivation techniques practiced in the past and those practiced today.⁴

- (i) Because of the scarcity of labour, relatively less effort was put into constructing and maintaining irrigation and drainage systems than is the case today. Relative to the present-day cultivator, the farmer in the past had to spend less time clearing drainage and irrigation channels or repairing irrigation bunds, anicuts and culverts before actually starting work in his field.
- (ii) Because of labour scarcity, relatively little time was spent in collecting and applying manure to paddy land.
- (iii) Because of the lesser pressure on land in the past, it was the rule to cultivate only one (long duration) rice crop per year; the switch to double-cropping took place only recently in many areas. For several reasons single-cropping resulted in 'natural' regeneration of soil fertility between paddy seasons: the land lay fallow for several months, growing its own green manure (weeds); because animals were able to graze both the fallows and the more abundant pastures, cultivators commonly had no use for rice straw and left it in the field, thus adding to the organic content of the soil.

It is an inevitable concomitant of the rotation of cultivation rights under Thattumaru-Kattimaru that, as he takes his turn, each cultivator will try to get the maximum output for the minimum investment. In particular, cultivators are disinclined to make investments - like

improving the irrigation channels, levelling fields, or building up the organic status of the soil - whose full benefits are not reaped in the same year. There seems little point in working hard if most of the benefits go to others who will cultivate in the next year or the year after that. The significance of the three points about cultivation techniques above is that, in the past, it mattered far less, and sometimes scarcely at all, that the Thattumaru-Kattimaru cultivator was not prepared to make long-term investments. The more rudimentary irrigation and drainage infrastructure required relatively little maintenance, and the process of soil regeneration to a large extent took place without the active intervention of the cultivator.

The second main feature of the paddy cultivation environment in the past which concerns us is that cultivation was more risky then. We shall however have to specify carefully what we mean by this, as it is open to more than one interpretation. Whether or not the total harvest was then more variable from season to season than it is today does not concern us. Our point is that there was almost certainly more annual variation than today in any single paddy field relative to any other paddy field. There are two reasons why this should be so. One is that with only rudimentary irrigation and drainage structures the harvest was more directly dependent on rainfall : a high level of rainfall might flood and ruin low-lying fields but be ideal for higher fields, while drought might have the reverse outcome. The second reason is that, with a more dense covering of jungle and a much higher population of wild animals, fields were liable to damage from wild animals of a kind which is rare today in most of the Island. Given that rates of return to seed paddy were far lower in the past than they are today,⁵ seed required a substantial fraction of the annual harvest, and the complete loss of a sown field was thus a serious matter.

A rational response to the kind of uncertain cultivation environment described above would be a system of land tenure which (a) gave the individual cultivator several different plots in different parts of the village and (b) ensured a rotation of cultivation rights which spread among several cultivators the risks of cultivating the most risky fields. Where the cost of crop failure is high, few individuals could bear the strain of constantly cultivating the same high-risk field. The Kattimaru principle exactly meets these requirements.

Our explanation of the cultivation environment in the past has thus suggested two general conclusions. One is the somewhat negative finding that, in the past, the rotation of cultivation rights had relatively little adverse effects on standards of cultivation. The other is the more positive finding that the Kattimaru principle exactly met the need for a tenure system to minimise the risks of individual economic disaster. These conclusions leave an issue unexplained : how do we fit the Thattumaru principle into this framework? At first sight there appears to be a substantial divergence behind the logic of the Thattumaru and the Kattimaru principles respectively : the first is intended to prevent physical sub-division of plots, and the second to rotate sub-divided plots among a number of shareholders.

However, if we examine the way in which the two principles operate together, the importance of this apparent contradiction dissolves. If one focuses only on individual plots, then pure Thattumaru is clearly intended to prevent inconvenient sub-division. But to achieve this objective by means of Thattumaru rotation is sensible *only* in an environment where (a) other cases of Thattumaru and cases of Kattimaru and Combined Thattumaru-Kattimaru are common : and (b) more generally, where the individual typically has rights in several scattered plots. It is tolerable for the individual to cultivate plot A only once in, say, every five years, since he has rights to other paddy plots, and can normally expect to have some land from which to fill his grain bin every year. The Thattumaru and Kattimaru principles may themselves appear to be aimed at very different objectives; within the actual operating system, they are complementary to one another.

Apart from its effect on cultivation techniques, the growth of population pressure on land has had a marked effect on villagers' attitude to land. When paddy land was relatively abundant and the returns to labour and seed far lower than they are today, villagers were far more concerned with having the right to use land if *they required it* than with asserting a right to cultivate a given area each year. The amount of land which a household might require could well change considerably from year to year according to such factors as the size of previous harvests and thus the size of paddy stocks, the extent to which they had been able to avoid somewhat arbitrary tax burdens, and the effect of ageing, sickness and death on the labour force they had available. Until 1890 paddy cultivators were obliged to pay the Grain Tax. The amount varied over time and area but can rarely, from the cultivators point of view, have appeared to be anything other than arbitrary. The process of collection involved a great deal of subterfuge on both sides, and often coercion (Obeysekere, pp. 108-114). The existence of such an arbitrary levy on the paddy harvest no doubt discouraged paddy cultivation. We know from Obeysekere's account that those responsible for collecting the Grain Tax often found that land was left uncultivated.

The villagers of Lelwala (See Section 8) say that in earlier times there was far less concern to precisely measure and cultivate regularly the land to which one had nominal rights. What mattered was that nominal rights should continue to be acknowledged so that they could eventually be activated as required. Where land was available, there was sufficient 'slack' in the system for most persons with claims to be accommodated, and for potentially-competing claims to be settled in an *ad hoc* way without any definitive rulings being given. It is likely that a degree of ambiguity was always characteristic of the system. Obeysekere has shown how speculators could exploit this ambiguity to obtain legal control of land (Section II). The Lelwala case suggests that, as land has become scarce, the villagers have generally become concerned to maximise and precisely define their claims. This change in attitude has brought to a head disputes which have their roots in a time when precision was not much valued, and accommodation rather than resolution of conflicting claims the more common strategy.

Our arguments above relating Thattumaru-Kattimaru to the physical and economic environment all derive from a single phenomenon affecting the entire Island : the man-land ratio. There are however two other points to be made about the fit between tenure and cultivation ecology which relate only to certain specific environments. The first was brought to our attention only in the case study of Thattumaru-Kattimaru in Ihala Lelwala village (See Section 8 below). There the researchers found that the Thattumaru-Kattimaru rotation is closely integrated with the physical layout of the water distribution channels. Irrigation water is distributed from anicuts along a stream flowing through the main paddy tract. Each plot (*liyadde*) is served by a permanent network of water channels so arranged as to give the cultivator a high degree of control over water levels. To sub-divide plots would entail either laborious and land-consuming extensions to the water distribution system so that each new sub-plot would be served independently, or else close coordination of operations between farmers sharing the same water inlets and outlets, with all the attendant risks of failure of that coordination and thus of conflict. One reason farmers give for Thattumaru rotation is to obviate these choices. We cannot say whether or not similar considerations are of wider importance : apart from this particular case study, little or no research has been done on the ecological - as opposed to the social - aspects of rotational tenure

The second ecological factor of local significance is the existence in many parts of the low country wet zone in particular - the part of the island where rotational tenure is most common - of what is known as *hal kumburu*, which are low-lying ill-drained paddy fields comprising several feet of soft mud. The tillage and harvesting of these fields is a very laborious and unpleasant task for man and buffalo alike, since they have to work deep in the mud. The organic status of these fields is normally very high, and the addition of further organic matter positively harmful. These fields are especially suitable for Thattumaru-Kattimaru rotation since the standards of cultivation in any one year have no effect on the harvest of the succeeding year.

In the above paragraphs we have not explained the origin of the Thattumaru-Kattimaru system. What we have done is provided a plausible rationalisation of the way in which the system fitted into the economic and ecological conditions of paddy cultivation at a time when the pressure of population on land was far lower than at present. This is not to say that the growth of the system was inevitable. Other paddy cultivators in other countries have coped with similar conditions in different ways, and there is no reason to suppose that the Sinhalese could not also have done. Our main purpose in spelling out in detail our analysis of the origins of the system is to illustrate how the system conformed to a certain set of conditions which existed in the past. The significant point is that those economic and ecological conditions no longer exist. In the present day paddy land is much more scarce, and requires much more careful husbandry in order that output may be maximised. When paddy is cropped twice a year the fertility of the soil is eroded unless chemical and organic fertilizers are added. Irrigation and drainage infrastructure must be carefully maintained and expanded. Cultivators must be encouraged to experiment carefully with new paddy varieties to find out which are best suited to the conditions of particular fields. The rotation of

cultivation rights discourages investments of these kinds. In addition, irrigation and drainage infrastructure has been improved, fields levelled, and the threat of animal damage to crops largely removed. The relative yields of different field vary less from year to year than in the past, and the rotation of fields is less necessary now. It is our contention, argued in more detail below, that changes in economic conditions have rendered the Thattumaru-Kattimaru system not only economically redundant, but positively harmful to agricultural development.

6. REGIONAL DISTRIBUTION

Table I : Percentage of Paddy Land under Rotational Tenure
by District - 1975

<i>District</i>	<i>Region</i>	<i>% of Paddy Land under Thattumaru-Kattimaru</i>
Kegalle	)	36.3
Kalutara	)	36.1
Ratnapura	)	33.9
Galle	)	18.2
Matara	)	13.6
Colombo	)	5.9
Kurunegala	)	3.3
Hambantota	)	3.0
Kandy	)	1.6
Matale	)	0.9
Badulla	)	0.6
Nuwara Eliya	)	0.6
Anuradhapura	)	0.6
Amparai	)	0.6
Puttalam	)	0.3
Batticaloa	)	0.1
Moneragala	)	0.1
Trincomalee	)	negligible
Polonnaruwa)	

(Continued over page)

<i>District</i>	<i>Region</i>	<i>% of Paddy Land under Thattumaru-Kattimaru</i>
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Vavuniya	Tamil areas	0
Mannar		0
Jaffna		0

Total Island	5.5
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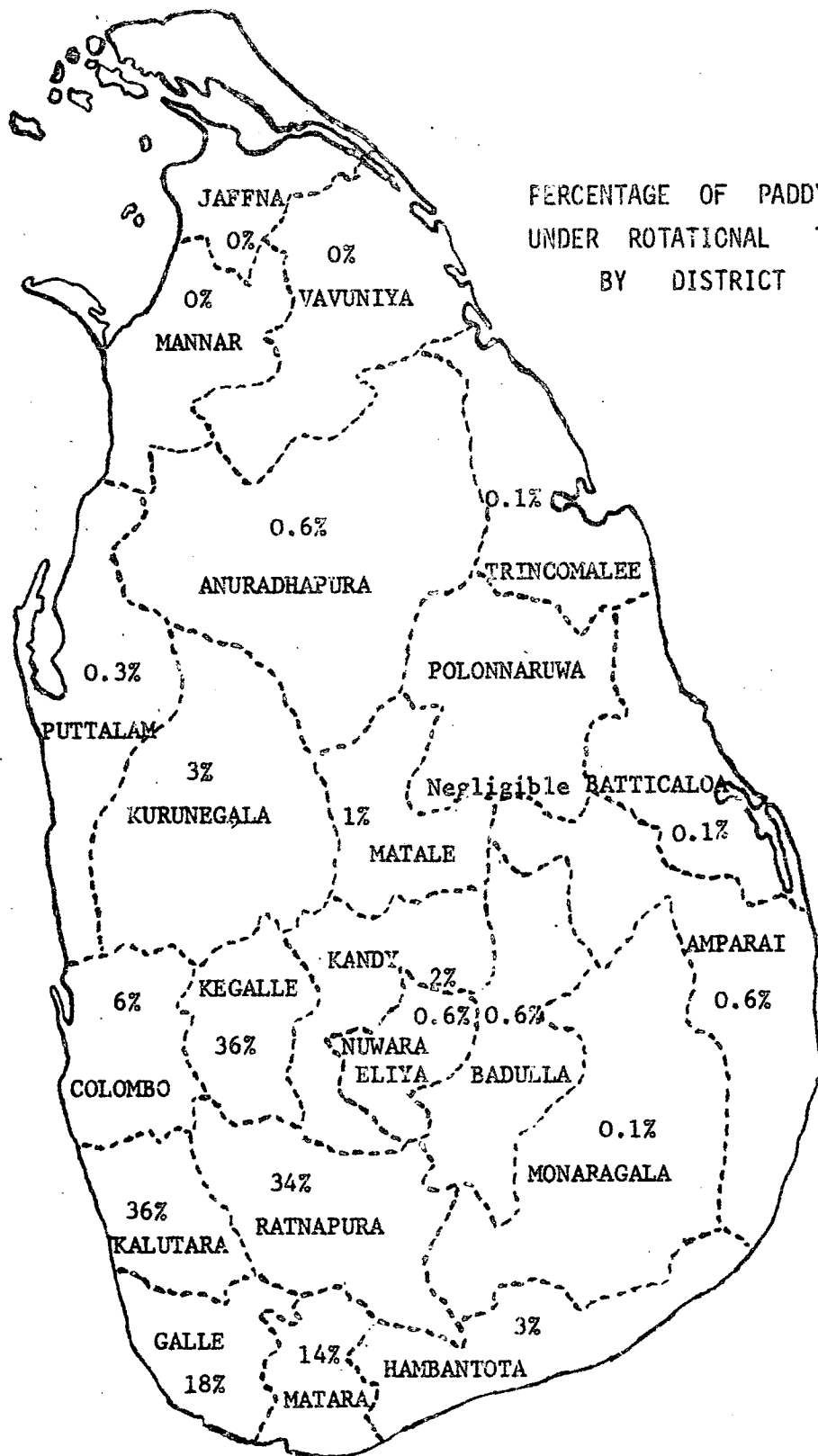
Source : Agrarian Services Department

The overall incidence of rotational tenure in Sri Lanka is low; it is a regional rather than an Island-wide phenomenon. The statistics reported in Table I are derived from the reports of Agricultural Productivity Committees; they are certainly subject to error both because of operational weaknesses in some of the reporting institutions and because of the variety and imprecision of the local terms used in connection with the Thattumaru-Kattimaru system.⁶ Some of these district totals differ appreciably from earlier figures given from the same source.⁷ The data are however sufficiently accurate for our purpose.

Table I and the Map on Page 14a illustrate the concentration of rotational tenure in the mid country and low country wet zone. The centre of gravity of the system is found in the mid-country districts of Kegalle and Ratnapura and in the interior areas of Kalutara district in the low country. The incidence of the system decreases as one moves away from these areas. A more detailed map would reveal this pattern even more clearly. In the dry zone rotational tenure is virtually unknown.⁸ The geographical distribution of rotational tenure on an all-Island basis defies explanation. It does not correspond at all clearly to any other regional patterns of culture, history, natural environment or type of cultivation system. It is noticeable that, although Thattumaru-Kattimaru is sometimes identified as an integral part of traditional Sinhalese culture, it is rare in several of the Kandyan districts, including Kandy itself, which are usually reckoned to be the heartland of that culture.

In statistical analysis of the correlates of rotational tenure we have taken as given the fact that it is common only in half a dozen districts of the low and mid-country wet zone, and attempted to explain its varying incidence in those districts. These areas are generally characterised by relatively high levels of education, urban contact, non-agricultural employment and part-time farming. Our statistical analysis described in Appendix One shows that, at the level of Revenue Divisions, there is a close association between the proportion of paddy land in rotational tenure and the proportion of smallholders who are full-time cultivators. How do we explain this? In the first place, the fact that there is a statistical association does not prove that there is a relationship of direct (or even indirect) causality involved. The statistics must be interpreted in the light of our background knowledge of the areas concerned. However, in this case, this wider knowledge does suggest that there is some causality involved. We know from numerous case studies that owners of small Thattumaru-Kattimaru shares often tend to let their cultivation rights lapse and, if they move away from the village or become heavily involved in other activities, they may also let lapse their ownership rights. We are on fairly safe ground in concluding that part-time farming is the enemy of Thattumaru-Kattimaru in two different senses. In the first place, part-time farming indicates an environment where there are a relatively large number of non-agricultural employment opportunities. Some persons combine agriculture and non-agriculture, but many others leave agriculture entirely for the (generally more remunerative) opportunities in the non-agricultural sector. Those whose economic interests are largely or entirely focused on non-agriculture will generally be relatively little concerned to preserve their Thattumaru-Kattimaru rights. Either their rights will lapse if not asserted for many years, or they will be willing to sell them. In such an environment it is relatively easy for those who wish to do so to purchase or otherwise consolidate shares and eventually achieve either a legal or a *de facto* division of Thattumaru-Kattimaru cases into simple freehold. Such manipulations may however never become necessary in part-time farming environments: the availability of non-agricultural employment opportunities permits fathers to leave their paddy land only to those of their children not likely to make a living in non-agricultural activities. Thattumaru-Kattimaru cases arise less frequently, or become less complicated, than in the areas where full-time farming is the rule.

There is thus a certain inherent incompatibility between Thattumaru-Kattimaru and non-agricultural employment. However, the areas with the highest proportions of non-agricultural employment, which are generally located along the coastal belt of the south-west coast, are also the areas which are most subject to urban influences more generally. They generally have high levels of educational attainments, good communications and high levels of exposure to 'modern' ideas and ideologies. It is possible that these urban influences tend to undermine the former acceptance of the moral worth of the Thattumaru-Kattimaru system and of the value of maintaining ownership of shares as a means of validating claims to membership of the village community.



PERCENTAGE OF PADDY LAND
UNDER ROTATIONAL TENURE
BY DISTRICT

Whatever the precise reasons for the statistical relationship between full-time farming and the incidence of Thattumaru-Kattimaru, we are on fairly safe ground in asserting that the kinds of urban influences which have been widespread in parts of the low country wet zone for many decades, and which are inevitably penetrating more and more deeply into the rural areas, tend to undermine the system. The incidence of the system appears to be far lower now than in previous times : a large number of cases have been legally divided up under a law which, until it was reformed by the Partition Act of 1951, gave considerable assistance to the wealthy and well-connected 'speculator' who wished to force out smaller shareholders and take a lion's share of the land for himself.⁹ And legal manipulations are not always necessary : fragmentary evidence suggests that there are many cases of Thattumaru and Kattimaru - usually of the pure varieties - which are sub-divided into freehold tenure by simple agreement among co-sharers.¹⁰ This may be one of those cases where the volume of 'flow' over time is far larger than is suggested by examining the 'stock' position at a given point in time. As we shall see below, many cases of Thattumaru-Kattimaru persist only against the desires of the shareholders, because of the lack of an institutional framework to effect an acceptable 'unscrambling'.

7. PUBLISHED STUDIES OF ROTATIONAL TENURE

Rotational tenure receives a mention in a number of published works, but appears to have been discussed in detail in only three case study reports. A brief summary of each of these three reports will be useful to orient further discussion.

(i) G. Obeyesekere's *"Land Tenure in Village Ceylon"*

This, by far the longest of the published case studies of rotational tenure, was conceived and written very much in an academic milieu. It is undoubtedly by far the most influential work on the subject in academic circles, and is indeed the only widely available published work.

"Land Tenure in Village Ceylon" is not easy reading. As this is the case with most of the theoretical sociological studies of small Ceylonese rural communities, the author includes most of the empirical evidence in the main text. To understand the book fully, the reader is required to work through a multitude of tables and diagrams, and to follow a large number of individual case studies. Obeyesekere's approach is historical. By interviewing in depth some members of the 1961 population of the village, he reconstructs patterns of landownership back through time to the founding of the village, which he dates at around 1790 at the latest, and possibly earlier.

The richness of both the theoretical and the empirical content of Obeyesekere's work makes the task of summarising difficult. In order to prevent our summary from becoming unduly lengthy, we shall restrict our comments to a few points, with special reference to those which seem most relevant to our attempt to make a general evaluation of rotational tenure.

(a) The hamlet of Madagama which provides the material for this study is located in the Hiniduma area of Galle District. Hiniduma is hilly and relative to the rest of the District, it is relatively inaccessible, has poor communications, and is socially and culturally 'traditional'.¹¹ Obeyesekere very explicitly recognises this, and indeed makes it central to his theme. His method is to use Madagama as a "baseline for ascertaining traditional modes of behaviour and culture" (p.6). In other words, he uses the village as an indicator of the kind of social and tenurial arrangements which were characteristic of the low country more generally until overcome by the spread of 'modernising' influences.

(b) In Madagama there is only one case of Thattumaru-Kattimaru, and this covers all the paddy land which 'belongs' (in a sociological sense) to the hamlet. This paddy field was made by the founders of the village and Obeyesekere traces how it was handed down in Thattumaru-Kattimaru¹² to their heirs. This fact of a single hamlet-wide Thattumaru-Kattimaru case is crucial to the conclusions which Obeyesekere draws from his study. His subject is not rotational tenure per se, but the "sociological study of land tenure" (p.8), and his central theme is that a share in the village land, however acquired, is treated by the villagers as *the* criterion of village membership. Under the traditional social arrangements of which he believes Madagama to represent a disappearing remnant, full membership of the village community, with all the rights, obligations and relationships which that implied, was conditional upon ownership of a share, however small, in the village paddy and highland. The legal sub-division of Thattumaru-Kattimaru cases in the less inaccessible areas of the low country was, it is argued, indicative of the erosion of the moral and sociological bases of the village community.

While he seems nowhere to make an explicit claim, it is fully implicit in this argument that Obeyesekere believes that the village (or hamlet) - wide single Thattumaru-Kattimaru case was the rule throughout the low country. This assumption is crucial to his argument because, without a single village-wide case, there ceases to be a single focus of the notion of village membership. If several cases exist, then we have no 'village community' in the sense that he defines it, unless we resort to the meaningless tautology of arguing that the shareholders of each single Thattumaru-Kattimaru case constitute a separate village community! (And what about those persons who hold shares in two or more cases?). We emphasise in some detail this assumption about village-wide cases because it seems crucial for several of Obeyesekere's arguments and demonstrably false. Madagama appears to be the only recorded occurrence of a hamlet-wide Thattumaru-Kattimaru case. In none of the other four village case studies discussed in this paper do any of the current Thattumaru-Kattimaru cases have their origin in a hamlet or village-wide system. This conclusion is especially important in the case of Ihala Lelwala village, since we know that the current Thattumaru-Kattimaru cases originate with the founding of the village. It is possible, even likely, that hamlet-wide Thattumaru-Kattimaru cases were common in the Hiniduma area because it is a hilly area and settlements are normally small: one single hamlet. In less hilly areas the primary community (or 'natural village'), to which villagers feel attached, is normally much larger.¹³ Administrative divisions do not always correspond closely to changes in terrain, but it is nevertheless clear from the data used in Appendix One that, despite the tendency for rotational tenure to survive longer in hilly and inaccessible areas like Hiniduma, such areas include only a fraction of even the number of acres still under Thattumaru-Kattimaru today. All the evidence suggests that the Madagama hamlet-wide Thattumaru-Kattimaru case was an exception in the past no less than today.

(c) Despite the relative isolation and traditionality of Madagama, the present distribution of Thattumaru-Kattimaru shares owes a great deal to the activities of 'share speculators'. Obeyesekere discusses in detail the strategies used by speculators to gain, by fair means or foul, first a toehold, and then a large share, of cultivation rights in the village Thattumaru-Kattimaru estate.

(d) In Madagama not only is paddy land held in common ownership via the Thattumaru-Kattimaru system, but highland (i.e. non-paddy land) is also held in common ownership. Obeyesekere does not in fact discuss highland ownership in any detail (p.294), but the theoretical division of highland ownership in Madagama is the same as for paddy land. Those who own shares in the village paddy field own equivalent shares in that part of the village highland which can be attributed to the original village 'estate'. Because most highland is cultivated in tree crops, the rotation of cultivation rights is not feasible. Instead, ownership of shares in highland confers both the right to use highland to build a homestead, and the right to share in the harvest from tree crops. This phenomenon of undivided ownership of shares in highland is discussed in more detail in Appendix Four. It is fairly common in rural Sri Lanka but, once again, there is no reason to believe that the Madagama case, where all village members have a right to share in common village highland, is typical.

(e) Obeyesekere begins his study by stating that "The techniques and economics of agriculture have no direct relevance for the subject matter of this work" (p.8). Throughout most of the book he manages to maintain his purely sociological viewpoint, but at one stage lapses into a vigorous defence of the Thattumaru-Kattimaru system on the grounds that it permits shareholders to pool their shares (or use *and* tenants) and thus prevents excessive sub-division of operational land units (pp. 206-7). Such an argument is in itself perfectly valid, but in the context of the book it is not so. If he is unable to fulfil his declared intention of ignoring the effect of rotational tenure on agricultural practices, Obeyesekere should not limit himself just to mentioning one aspect of the issue which clearly puts the system in a favourable light. He does not even hint that the system might have harmful effects on the standards of husbandry.

In conclusion, it seems fair to say that Obeyesekere appears to have unconsciously got himself into a position of defending rather than evaluating the Thattumaru-Kattimaru system. At no point does he do this explicitly; the judgement derives from examination of the tone of his book and of the issues which he discusses and those which he leaves undisturbed. As we argued in the paragraph above, his discussion of the effect of the system on agricultural practices is clearly biased. More generally, he implies that village-wide Thattumaru-Kattimaru cases were one of the bases of the traditional social organisation of low country Sinhalese villages, and therefore that there is some kind of link between the preservation of the Thattumaru-Kattimaru system and the preservation of the 'traditional order'. The empirical basis for this claim is extremely weak.

(ii) *I.K. Weerawardena and I. Collonnege's "Thattumaru-Kattimaru Case Study"*

It is not only the present authors who have reacted against Obeyesekere's apparent defence of rotational tenure. Much of the tone and the content of Weerawardena and Collonnege's report derives from their desire to counter what they consider to be the harmful effects of Obeyesekere's work. The authors were both senior government servants employed in the Agrarian Services Department, the government agency concerned directly with the supervision of the local level farmers' institutions - at that time Cultivation Committees. The concern of this Department with rotational tenure is immediate and practical, since the system causes them two problems. In the first place, the complexities of the system make it almost impossible to compile accurate and intelligible records of ownership and tenure of paddy lands (Paddy Lands Registers)¹⁴. In the second place, complicated Thattumaru-Kattimaru cases result in disputes over cultivation rights which are often referred to the Cultivation Committees. It was partly these problems which led the authors to do this case study in a village with a high incidence of disputes,¹⁵ and, possibly, some of the most complex cases of Thattumaru-Kattimaru known on the Island.

In Mahagama North (Kalutara District) about two thirds of the paddy land was under some form of Thattumaru-Kattimaru tenure in 1971 - almost all Combined Thattumaru-Kattimaru cases. Complexity is the rule. There was one case of 479 persons sharing 2.08 acres in a sixteen year cycle (pp. 22-23); some owners held up to thirty separate shares in different Thattumaru-Kattimaru cases (p.12). With the support of the village Cultivation Committee and the help of several assistants, the researchers amassed a great quantity of data on the system, and present a great deal of it in their report. The history of a number of complex cases are recorded in detail. Weerawardena and Collonnege strongly believe that the system is inimical to both the development of agriculture, and to healthy social relationships at village level. They rather neatly reverse Obeyesekere's arguments about the relationship of rotational tenure to the village community, arguing that the disputes inherent in the system have destroyed "good old community feeling....." (p.69). They found that an overwhelming majority of shareholders (596 out of 657) expressed agreement with the suggestion that the Thattumaru-Kattimaru system should be abolished, but that only a tiny minority (thirty-one) were willing to contemplate the transfer of their own shares to facilitate abolition¹⁶ (p. 83). Having concluded that there is "nothing to justify" the continuation of an outmoded and harmful tenure system (p.80), the authors focus attention on the various ways by which abolition may be achieved.

(iii) *P. Ganewatte's "Thattumaru and Kattimaru System of Rotation of Cultivation of Paddy Land"*

This very brief report is the result of a small piece of fieldwork in an area where rotational tenure is generally rare - Anuradhapura District in the dry zone. The case study was however conducted in an old (*purana*) village irrigated from a village tank. Thattumaru-Kattimaru occurs in such villages, but very rarely in the newly-irrigated tracts

which account for most of the paddy land in the district. Out of fifty-one acres of paddy in the village, nearly five acres are under five cases of Simple Thattumaruru, and three acres under two cases of Simple Kattimaruru; there are no cases of Combined Thattumaruru-Kattimaruru. The system is not widespread, and all cases are simple and of recent origin.

Ganewatte briefly discusses the terminology involved, describes the individual cases, and discusses the advantages and disadvantages of the system. He, too, finds a belief among farmers that the system discourages investment in the land and thus reduces agricultural production. He argues that, because the system enables every villager to maintain some claim to ownership of paddy land, this ensures a certain status to every family, increases the general level of satisfaction, and thus reduces the level of tensions and conflict. Had the Thattumaruru-Kattimaruru cases in this village been at all complex, the author might well have qualified this last conclusion. Thus, like the other authors discussed above, Ganewatte comes to conclusions about the Thattumaruru-Kattimaruru system which reflect the particular conditions of the village in which field work was undertaken; the generalisability of some of these conclusions is much in doubt.

8. THE AUTHORS' VILLAGE CASE STUDIES

1. *Ihala Lelwala*

Ihala Lelwala is situated in the Baddegama Assistant Government Agent's Division of Galle District. It is an old-established village populated largely by *Gorigama* caste people. There is a dense network of kinship relationships among villagers, and much of the highland is still held in joint ownership. It has in general many of the characteristics of a traditional low country village. At the same time the people are relatively prosperous and well-educated. A very high proportion of households have at least one member employed in a white collar government post, and there is an average of about one such job for every third household in the village. Many people commute daily to urban centres for work.

Most of the paddy land and houses are to be found around the floor of the one large and few subsidiary valleys which comprise the village. The surrounding hills are covered by tea, both in estates and in smallholdings owned by villagers. White collar employment, tea smallholdings and estate employment all provide alternative sources of income to paddy cultivation. Since scarcely any use is made of new high yielding paddy varieties or yield-enhancing practices like transplanting and line sowing, paddy yields are only moderate - an average of twenty three bushels per acre in Maha 1976-7, and nineteen in Yala 1977. However, paddy land occupies a more important place in villagers' views of the social order than in their bank balances. A close association is drawn between respectable social status, full membership of the village community, and possession of a legitimate claim to village paddy and highland. In particular, villagers feel that they have special rights

to, and special duties to continue to cultivate, land which was first cleared from jungle by their ancestors. Such sentiments explain why villagers are unwilling to sacrifice, even for monetary compensation, the smallest Thattumaru-Kattimaru shares. However, as we shall see in more detail in Section 9, the villagers are strongly opposed to the Thattumaru-Kattimaru system per se. They distinguish clearly between owning a share of ancestral land and having to exercise that ownership right in an inconvenient rotational system.

According to the Cultivation Committee Registers almost exactly 40% of village paddy land (two Cultivation Committees) is under rotational tenure. This figure is however an underestimate. Full information about the details of individual Thattumaru-Kattimaru cases, especially the more complex ones, is surprisingly difficult to come by. It is the rule that in the more complex cases no individual shareholder knows the full details of the case. Each knows of his own rights and perhaps, those of close kin or people who cultivate in the same year as himself, but often little more. In order to verify the details of complicated cases, the researchers had typically to visit several households. The information given in the Paddy Lands Registers is compiled by Cultivation Committee members, who are voluntary and sometimes reluctant public servants. In principle they are required to visit each household, but in practice they sometimes fail to do so. They often do not have the patience to obtain full details of Thattumaru-Kattimaru cases which, it should be noted, cannot be recorded on the standard format of the Paddy Lands Registers. Some shareholders take advantage of these circumstances to have themselves registered as full owners of Thattumaru-Kattimaru plots. In some cases the intention is to use these records at a later stage as a basis for laying a claim to the full plot. In other cases failure to register plots as being in rotational tenure is due to slackness or error. The net effect is under-registration of the extent of rotational tenure.

The most notable aspect of the Thattumaru-Kattimaru system in Ihala Lelwala is the way in which, according to villagers' accounts, it developed in response to the local physical environment. The paddy *yayas* are surrounded by steep hills. After World War Two, measures were taken to deepen and straighten the main stream running through the valley. Before that time the paddy fields were almost all water-logged and marshy. They were cultivated only during the Yala season, when rainfall is lower than in the Maha season. The steepness of the hills and the marshiness of the paddy fields meant that there was always a threat that the top-soil in the fields would be washed away by flood water. This was the main risk in paddy cultivation. In order to minimise this danger the bunds between the paddy plots were built unusually large and strong. As well as helping to check floodwater, they served as roadways, as a temporary place of storage of cut paddy sheaves, and, along their sides, as places to cultivate vegetables and yams.

The Thattumaru-Kattimaru system fits into this natural environment in two ways. In the first place, even the large bunds did not eliminate the risk of flooding and loss of top soil from the paddy fields.

It was still desirable to have a rotational tenure system which distributed the burden of risk among as many cultivators as possible. Of the various kinds of Thattumaru-Kattimaru rotations, the Pure Kattimaru variant represents the most direct means of equalising risk (Sections 2 and 5). Among the five villages for which we have information, it is only in Ihala Lelwala that Pure Kattimaru is the most common kind of tenure rotation (Table 6). Perhaps this is because it is the village which has historically been most exposed to the kinds of risks in paddy cultivation which Kattimaru rotation distributes among different cultivators.

The second connection between rotational tenure and the natural environment derives from the fact that sub-division of the plots lying between the large bunds often proved inconvenient or impractical. To have done so would have required the construction of further bunds as boundary-markers and aids to water control. The marshy fields did not provide much soil for this purpose, and soil would have to have been laboriously transported from other places. Moreover, water control was easier where only one man was cultivating one plot surrounded by large bunds. It was easier not to sub-divide, but to keep the plots large and rotate cultivation rights. In former times relatively large plots were not inconvenient because they were cultivated under the *kayya* system, whereby groups of farmers worked jointly and shared the harvest.

Thus in Ihala Lelwala the social arrangements made for regulating access to paddy land were adjusted to the technical features of the natural environment rather than vice versa. The whole equation has however changed considerably following the modification of the natural environment. The straightening and deepening of the main stream has greatly facilitated drainage. The paddy fields are no longer marshy and, indeed, because the fast-flowing stream has further scoured out its own bed, it is often difficult to raise water up into the paddy fields and keep it there. Water shortage is now a problem. In addition, the better drainage provided by the main stream has led cultivators to neglect the drainage channels which formerly ran where the paddy fields came up against the highland. These channels (*pitavanas*) are now partly blocked or filled in. Sand eroded from the tea-covered highlands now washes down directly into the paddy fields, constituting a further hindrance to cultivation. What is required today is considerable investments of labour in channel-clearing, land-levelling and other infrastructural works. Rotational tenure is no longer appropriate to the natural environment because it inhibits this kind of sustained investment activity.

An unusual feature of the paddy fields of Ihala Lelwala is the large number of *kalawitas*, which are mounds of earth raised above the paddy fields and used for cultivating vegetables and other crops. The villagers say that these were originally vegetable and yam plots, and at the time of paddy harvest the vegetables and yams were uprooted and the *kalawitas* used as threshing floors. The system has however changed. Over time the number and the size of the *kalawitas* have increased considerably. In Thattumaru-Kattimaru plots individuals have appropriated

kalawitas for permanent personal use. Their claims are made either on the basis of having been the person to start building the *kalawita* or simple as 'might is right'. Many *kalawitas* are planted to permanent crops like tea and coconut or to long duration crops like sugar cane. They are rarely available for use as threshing floors. Most owners of *kalawitas* attempt to enlarge their areas at the expense of the surrounding paddy fields. Where the paddy fields are under rotational tenure, the shareholders may be neither organised nor motivated to resist such encroachment. Thus the area of paddy land decreases and this in turn causes disputes among the shareholders. Each attempts to cultivate the full area to which he is traditionally entitled, but not all claims can be satisfied if the total area has diminished.

(ii) *Mahagangoda* :

Mahagangoda is the name of a Cultivation Committee area within the Ambalangoda Assistant Government Agent's Division, Galle District. The village is only about four miles from the coast and is populated by the *Karawe* caste whose traditional occupation is fishing. The villagers have been cultivators of paddy and highland crops, especially cinnamon, for a long time, but are less oriented towards farming than the people of Ihala Lelwala. The soil in Mahagangoda is generally sandy and poor and the paddy yields low - an average of eighteen and seventeen bushels per acre in the two seasons of the 1976-7 agricultural year. A substantial proportion of the wealthier households in the area have members employed in urban white-collar jobs. This proportion is far lower than in Ihala Lelwala, but from Mahagangoda a larger proportion of other workers do manual jobs in urban areas, especially in the construction sector. While the degree of urban contact and dependance on outside incomes may not vary a great deal between the two villages, paddy cultivation is far more important in the values and attitudes of the Lelwala villagers. One indicator of this is to be found at harvest time. While the people of Ihala Lelwala hold a wide range of traditional magico-religious beliefs concerning the harvest and practice a range of rituals at each stage, the paddy harvest in Mahagangoda is almost entirely a secular affair which is treated in a very businesslike fashion. Few cultivators make any concession to the supernatural beyond making an offering of new rice at the temple.

Within the Mahagangoda Cultivation Committee area there are only nine cases of rotational tenure. They cover 7% of the paddy area. All are mentioned in the Cultivation Committee Register, although full details are not given. A further three cases, two of Pure Thattumaru and one of Pure Kattimaru, have been divided up among the shareholders by common consent since the Paddy Lands Register was compiled three years ago. According to the statistics available in Colombo, only 2% of the paddy land in the Agricultural Productivity Committee area (Batapola) is under rotational tenure. A high proportion of both highland and paddy land belongs to outsiders, and almost half of the paddy land is cultivated on *ande* tenure. Two thirds of the households in Mahagangoda neither own nor operate paddy land.

It is quite consistent with these features of the land tenure and with the relative lack of concern with farming generally that Mahagangoda villagers display less attachment to paddy land than do the people of Ihala Lelwala. The dislike of Thattumaru-Kattimaru is almost universal and often very strong (Section 9). The only important reason given by the villagers for not wanting to divide up Thattumaru-Kattimaru cases was that the resultant plots would be too small to cultivate. Some households are landless except for a single Thattumaru-Kattimaru share. For them the main benefit of a permanent division is that they will have some land to cultivation each year.

The paddy fields of Mahagangoda are situated on sandy uplands which drain quickly after rain. There is no irrigation system except the small drainage channels (*pitawanas*) which run alongside the fields. No elaborate water control is possible. The bunds in the paddy fields are small and are regularly renewed. Thus there is no technical reason why paddy land in Thattumaru-Kattimaru could not be permanently divided.

Most of Mahagangoda has been settled since World War II, much of it by government allottees, and some by encroachers. There are very few cases of joint highland ownership in the Cultivation Committee division or, to the best of our knowledge, in the area as a whole.

9. VILLAGERS' ATTITUDES TO ROTATIONAL TENURE

The authors' interest in rotational tenure was originally sparked when, in the course of doing field research on a different subject, the matter came up in conversation with villagers and they expressed a very strong distaste for it. Curious why a system so widely-dislike should persist, we began to systematically collect information on the way in which it worked and on villagers' attitudes to it.

In Ihala Lelwala a randomly-drawn sample of fifty-four shareholders were asked the concrete question whether they would like to divide into permanent plots the cases in which they had shares, provided this could be done fairly and at little cost. Their responses are given in Table 2.

Table 2: *Ihala Lelwala : Attitudes of Shareholders to Partitioning Rotational Tenure Cases*

Reasons given by the 51 respondents in favour of division	No. giving this reason
1. It will encourage people to improve the land	44
2. It will generate more interest in paddy cultivation	32
3. It will put an end to disputes	20
4. It will result in higher yields of paddy	14
5. It will make cultivation less problematic	13

(continued over page)

Reasons given by 51 respondents in favour of division	No. giving this reason
6. Thattumaru-Kattimaru arrangements are difficult to understand	3
7. It will end a source of family disunity	3
8. There will be more security of land rights	1
9. It will be easier to sell the land	1
T O T A L :	131 ===

Reasons given by 3 respondents opposed to division	No. giving this reason
1. Division will make the plot too small	1
2. Land rotation distributes good and bad plots equally	1
3. "It is not the system which is bad, but the people"	1
T O T A L :	3 =

In Mahagangoda the same question was asked of all thirty Thattumaru-Kattimaru shareholders living in the village (Table 3). They too are strongly in favour of division, even in many of the cases where the resultant plots would be extremely small. It is noticeable that the problems of dispute and encroachment were cited less often in Mahagangoda than in Ihala Lelwala. This probably because in Mahagangoda the Thattumaru-Kattimaru cases are relatively recent and simple in comparison to Lelwala. There is not the same scope as in Lelwala for genuine or contrived disagreements.

Table 3 : Mahagangoda : Attitudes of Shareholders to Partitioning
Rotational Tenure Cases

Reasons given by the 22 respondents in favour of division	No. giving this reason
1. The system leads to poor cultivation practices	18
2. It is better to have some land to cultivate each year	6
3. The system allows the strong to encroach on the rights of the weak	2
4. It is inconvenient to have to divide the land differently each year and make new bunds	1
T O T A L :	27 ==

Reasons given by 5 respondents
opposed to division

No. giving this
reason

- | | |
|--|---|
| 1. Division will make the plot too small | 4 |
| 2. The system works quite well | 1 |

—
5
=

Three respondents gave other replies. Two had no firm views on the question. The other one, who has the right to cultivate the plot four years in every five, claimed that the land was entirely his personal property and that there was no Thattumaruru principle involved.

Lest on the basis of these replies we jump to the conclusion that villagers would all cooperate enthusiastically in any attempt to effect sub-division, we should examine some similar data from Weerawardena and Collonnege's case study. They have not reported asking the villagers precisely why they dislike rotational tenure, but they did ask whether or not the villagers would like to abolish it. 657 shareholders were interviewed (p.83). On being asked "whether they would like to do away with the system", 91% of respondents said they would. When asked, "whether they would like to get their scattered shares in a particular (paddy) tract or *yaya* concentrated in one place", the favourable responses dropped to 53%. When asked about consolidating all their shares within the Cultivation Committee area into one place, only 37% were in favour. Finally only 5% of respondents expressed willingness to transfer their own shares to other shareholders. The precise meaning to be put on replies in attitudinal surveys such as this depends very much on the context in which the questions were asked. What did the villagers think of the researchers? Did the villagers expect to gain or lose by giving particular kinds of answers? Nevertheless, the general trend of the answers confirms our own impressions from field work. Villagers are strongly opposed to rotational tenure in the abstract. Yet they are extremely reluctant to consolidate their shares or, more importantly, to actually forego shares. Such reluctance may not be largely or even partly due to conservatism per se. It may be founded on the rational assumption, justified by experience, that a legal sub-division/consolidation would not be conducted fairly, speedily or without bitterness. Weerawardena and Collonnege conclude from their attitudinal surveys that "the people are generally in favour of a change in this tenurial system" (p.83). It seems to us that, while this is true in the abstract, any concrete attempts to reform it will inevitably require sacrifices on the part of some shareholders, and that opposition is inevitable (Section 13).

10. THE EFFECT OF ROTATIONAL TENURE ON CULTIVATION PRACTICES AND PADDY YIELDS

Whatever ambiguity there may be in villagers' attitudes to some aspects of rotational tenure, one point is clear. Almost all shareholders believe that it leads to poor standards of cultivation and reduced yields. This belief was the main cause of the attack on the system launched by Weerawardena and Collonnege in their case study. The logic behind this argument is quite clear. Because shareholders do not cultivate the same plot each year, self-interest will lead them to adopt practices which will have immediate effect and to minimize investments - in labour or some other form - whose benefits will mainly be felt in future years when someone else will enjoy the harvest. It is of course possible for all shareholders in a plot to reach an agreement, tacit or explicit, that each will adopt practices of long-term benefit to all. This may occur in some cases, especially where shareholders are few in number and either siblings or other close relatives. Such cases are however not very common. By the time they have been sub-divided among the third generation (i.e. the grandchildren of the founders), many Thattumaru-Kattimaru plots are shared by people who do not have close social or kinship with one another. Shares are also transferred by sale, mortgage or marriage, and co-sharers may thus be strangers to one another. Human nature being what it is, it is scarcely surprising that almost all our respondents felt that shareholders generally fail to maintain and improve the land.¹⁷

The nature of the investments needed to maintain and improve the fertility of paddy land vary from one field to the next. The most common allegation against Thattumaru-Kattimaru shareholders is that they fail to clear irrigation and drainage channels and fail to maintain and repair bunds. Precise water control is possible only if these jobs are undertaken regularly, but it seems that irregular cultivators do just enough to 'get by'. Land levelling is neglected for the same reason. In the low country wet zone where rotational tenure is common, one of the main reasons for low paddy yields is weed infestation. Weeds deprive paddy of nutrients, inhibit paddy plant growth and discourage the cultivation of high yielding paddy varieties which are short-stemmed and therefore more likely to be checked by weeds. Weed infestation carries over from season to season. The greater the care taken to kill weeds at one season, the less the problem in succeeding seasons. In the areas where rotational tenure is most common, paddy fields are mostly prepared by hand with the mammoty, while puddling with buffaloes is the second most common technique. Buffaloes are more expensive, but they kill weeds more effectively than the mammoty, and the effects are visible in succeeding seasons. Thattumaru-Kattimaru cultivators have little incentive to use buffaloes since they obtain only a portion of the benefit but bear all the extra cost. The same kind of logic applies to the question of fertilizer use, except that chemical fertilizers tend to be almost all consumed during the season of application, so the direct disincentive of rotational tenure might be less. However, Thattumaru-Kattimaru plots are generally poorly drained, irrigated and levelled. This in itself is a disincentive to fertilizer use. The benefits of using fertilizer will tend to be larger on the better-maintaining permanently-cultivated plots.

Table 4 : The Effect of Rotational Tenure on Fertilizer Use and Paddy Yields : Ihala Lelwala and Mahagangoda

MAHA 1976/77

Village	Ihala Lelwala				Mahagangoda	
Type of Tenure	Owner Cultivation		Ande Tenure		Owner Cultivation	
	Rota- tional	Indivi- dual	Rota- tional	Indi- vidual	Rota- tional	Indivi- dual
Acreage*	28.27	14.28	24.79	7.91	4.92	6.75
Average lbs. of chemical fertilizer per year	128	123	105	146	124	145
Average paddy yields (in bushels) per acre	23.5	30.3	23.2	26.9	23.8	29.3

Source : The information was obtained by the authors while living in the villages during the season in question. Some farmers were interviewed twice weekly. Others were interviewed after the harvest specifically to collect the information for this table.

*

For Ihala Lelwala the sample of individually-owned plots was drawn randomly for the purpose of other research on which the authors are engaged. Some of the land under rotational tenure was also in this same sample. The rest of the acreage under rotational tenure about which information is given was chosen randomly from 11 Thattumarukattimaru cases. There are, to the best of our knowledge, no consistent differences between Thattumarukattimaru and individually-owned land in respect of intrinsic soil fertility. The information for Mahagangoda relates to all plots in one part of the main paddy *yaya* where rotational tenure is most common and where natural conditions (soil, water supply, drainage, etc.) are approximately homogeneous. In both villages the quantitative information was gathered before the authors began to show great interest in the Thattumarukattimaru system.

Both villagers' beliefs and logic suggest that Thattumarukattimaru plots will receive less fertilizer and produce less paddy than the average field. The quantitative information given in Table 4 confirms this. In each of the three sets of comparisons paddy yields on individually-owned land are about 25% higher than on Thattumarukattimaru fields. Levels of fertilizer application are appreciably higher on individually-owned land in two cases and only slightly lower in the third. The information on labour use under different kinds of tenure systems in Ihala Lelwala¹⁸ is also consistent with these other results. More work is put into individually-owned plots than into Thattumarukattimaru plots (Table 5). The differences are however small - a matter of a 3% and a 5% difference respectively within the owner-cultivated and *ande* sets of comparisons. The higher levels of fertilizer application on individually-owned plots would require a little extra work, as would the harvesting of the larger paddy yields.

MAHA 1976/77

Source : Data were collected in twice weekly visits to the farmers during the season.

In drawing up the information in Table 4 and 5 every attempt has been made to make the comparisons between rotational and individually-owned plots valid by standardising for every other possible factor which might consistently affect paddy practices and yields. We cannot however be certain that this objective has been fully realised. Moreover, the total sample acreage is small. For these reasons it would be unwise to treat these results as definitive. They are, however, highly suggestive and represent, to the best of our knowledge, the first valid quantitative test of the effect of rotational tenure on paddy practices and yields.

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when they see X or Y doing so. Such conformity is especially common in the areas where rotational land tenure is most common, since these are also the areas which have proved least suitable for new paddy varieties. In the absence of new varieties, with their new and varying requirement in terms of timing, fertilizer application, pest control and weeding, farmers are especially likely to adhere to a fixed 'traditional' set of practices which are very close to those of their neighbours. In such an environment, any kind of land tenure which discourages investment in paddy cultivation will tend to exercise a generally depressing effect on overall standards of cultivation. Further, rotational tenure probably leads to lower overall levels of innovativeness. When we talk of an innovative farmer we do not only mean a man who adopts new paddy varieties, uses pesticides and weedicides, and applied large quantities of chemical fertilizer. Innovativeness is more fundamental than that. It is an attitude of mind which leads the farmer to continually experiment with new ways of doing things. New ways many not only mean new inputs, but also new combinations of old inputs or practices. The innovative farmer is the one who experiments by advancing his cultivation calendar by a few days ; examines the effect on yields of leaving the paddy without standing water for rather longer during mid-season; sees the effect of concentrating more fertilizer on one corner of the field; or tries different combinations of bone-meal and urea. An innovative farmer is more likely than others to adopt new varieties and government recommended practices, but he is especially likely to experiment with them in order to find a combination which best suits his fields and his pocket. Such an attitude is a valuable national asset at the current stage of agricultural development in Sri Lanka. The rice breeders are beginning to release a wide range of new varieties to suit special local conditions. The range of choice in varieties alone is now large, and the agricultural extension service is not fully able to make confident and correct recommendations to suit the circumstances of the individual farmer. Farmers must experiment for themselves. A precondition for innovativeness however seems to be regular annual cultivation of the same plot, or at least of very similar plots. And rotational tenure makes this difficult or impossible. A man who cultivates a plot only once in five years cannot be expected to experiment very carefully. During the interval between his turns so much can change - available paddy varieties and fertilizer mixes, and the prices of all inputs and outputs - that consistent comparison is impossible.

It is unfortunate that our claims of the detrimental effect of Thattumaru-Kattimaru on the ethos of paddy cultivation cannot be put to the test. These views emerge from the subjective experience of field work. Some support may be derived from the regional patterns of paddy practices in Sri Lanka. The area of the Island where rotational tenure is most common is also the area where the population seems least interested in increasing their incomes through investing in paddy. This is generally attributed to the availability to the people of alternative sources of income, especially in trading and public sector employment. However, it seems likely that the prevalence of Thattumaru-Kattimaru plays at least a certain role. We have no techniques for unravelling the chain of casual relationships involved.

It may be that rotational tenure discourages interest in paddy. It is perhaps equally likely that the availability of major sources of income other than paddy encourages tolerance of an inefficient tenure system in the paddy fields. For practical purposes the answer does not much matter. It seems clear that rotational tenure leads in more ways than one to reduced paddy yields. Its replacement by individual tenure should increase paddy output.

11. CONFLICT IN THE PADDY FIELD

Second to its detrimental effects on paddy practices and yields, the fact that rotational tenure leads to conflicts was the most common reason why villagers dislike it (Section 9). This change that it leads to dispute and conflict recurs fairly commonly in the literature, but not all observers agree. For example, Ganewatte argues that rotational tenure helps to prevent the fragmentation of paddy plots and the emergence of landlessness and, since these are causes of tension and conflict, the 'Thattumaru and Kattimaru system therefore tend to reduce conflicts and tensions' (p.9). He does not mention any conflicts directly related to the exercise of Thattumaru-Kattimaru rights.

Table 6 : Levels of Complexity of Rotational Tenure in the Sample Villages

Village	Acreage under rotational tenure	% of paddy land under rotational tenure	% of land under rotational tenure which is			% of cases with 10+ operating share-holders
			Pure Thattu-mar	Pure Katti-mar	Combined Thatti-mar/Kattimar	
Medagama ¹	18.9	100	-	-	100	100
Mahagama ²	187.0	68	1	11	89	98
Ihala-Lelwala ³	123.4+	40+	6*	61*	33*	20*
Unduruwa ⁴	10.8	15	58	42	-	-
Mahagangoda ⁵	15.9	7	21	-	79	11

1. Obeyesekere; 2. Weerawardena and Collonnege; 3. Present authors;
4. Ganewatte; 5. present authors.

* Data refers to a sample of cases covering more than half of the village land under rotational tenure.

The probable reason for the divergence of views on rotational tenure and conflict is suggested by the information in Table 6 on the level of complexity in Thattumaru-Kattimaru in the sample villages. There is no unique measure of the degree of complexity; two of the most obvious measures are given in the last two columns. They are, respectively, the proportion of rotational tenure land which is under Combined Thattumaru-Kattimaru, and the proportion of cases with more than ten shareholders currently exercising their cultivation rights. The ranking of the villages is similar in each case, and also corresponds closely to the ranking according to the total proportion of village paddy land under rotational tenure. It is immediately obvious that the character of the system varies widely among these five villages. Some researchers have drawn general conclusions from a single village characterised by complex cases covering only a fraction of the land. It is scarcely surprising that different observers have reached different conclusions. Table 7 illustrates this point very clearly with respect to the question of disputes. Although we do not have fully-comparable information on the incidence of disputes over rotational tenure in the sample villages, the information available permits us to conclude that the overall level of disputes increases as the rotational tenure system becomes more complex.

Table 7 : The Complexity of Rotational Tenure and the Incidence of Disputes in the Sample Villages

Degree of complexity of rotational tenure in the sample villages - measured by % of cases with 10 + operating shareholders	Information available on incidence of disputes
1. Medagama (very complex)	No figures given, but disputes are one of the main subjects discussed and it appears that a large proportion of land under Thattumaru-Kattimaru is subject to dispute.
2. Mahagama (very complex)	Disputes very common. In one year (1970/71) the Cultivation Committee officially recorded one dispute for each 1½ acres of Thattumaru-Kattimaru land.
3. Ihala Lelwala (Moderately complex)	37% of shareholders interviewed cited disputes as one of the disadvantages of the system.
4. Mahagangoda (relatively simple)	7% of shareholders interviewed cited disputes as one of the disadvantages of the system.
5. Unduruwa (simple)	Disputes not mentioned, and the rotational tenure system cited as a cause of harmony

This association between disputes and tenurial complexity is quite predictable. To the best of our knowledge the details of rotations are never written down. Complexity means more details to be remembered, more shareholders to come into conflict with one another, and a longer cycle over which to forget. Such factors became all the more important

in one remembers that, even in simple systems, rights are not always unambiguous, even in principle. For example, there is often ambiguity about the rules of marriage and inheritance. In the pre-colonial period different parts of the Island pursued different practices, while both the new Roman Dutch Law introduced by the Dutch and the anglicized version enforced by the British introduced new concepts, especially with regard to female inheritance.¹⁹ The consequences are still felt today. The validity of a current claim may depend on which set of inheritance rules are applied to the property of someone who died two or three generations ago.

Disputes over Thattumaru-Kattimaru shares are caused not only by lapses of memory or other genuine differences of opinion arising from the factors discussed above. A large proportion of disputes arise from deliberate attempts by one or more of the contenders to encroach on the rights of others. Such aggressive strategies are pursued both by long standing shareholders and by outsiders who commonly exploit the complexity of the system by buying a share and then trying to expand their rights by illegal means. Aggressors use various different strategies. The crudest is physical violence or the threat of it. The aggressor may begin to cultivate out of turn or expand the area he cultivates by moving the position of the bunds. The threat of violence if the victim reacts is even more formidable if the aggressor has political support in the rural institutions to which disputes are referred for settlement - Cultivation Committees, Agricultural Productivity Committees, Conciliation Boards and Agricultural Tribunals. The ultimate threat is recourse to courts of law. Here the aggressor will pursue one of two main strategies according to circumstances. One strategy is harassment, where the ultimate intention is not actually to obtain a judgement, but to involve the (poorer) opponent so deeply in legal costs that he decides to cut his losses and concede defeat. The alternative strategy of actually seeking a judgement is pursued where the intention is to effect legal partition of the Thattumaru-Kattimaru land. Until the Partition Act of 1951 any single shareholder could, under the Partition Ordinance of 1861, force the complete division of jointly-owned estate into individually-owned plots, the costs being allocated proportionately among all shareholders.²⁰ According to Obeyesekere (p.178), it was under this Ordinance that the great majority of rotational tenure cases have been ended. The 1951 Partition Act permits greater flexibility. It is no longer necessary for the whole of an estates to be partitioned. The plaintiff may receive a share in the form of an individually-owned plot while other shareholders opposed to partition may continue as joint owners on the remainder.²¹ Obeyesekere however argues that this change in the law is not of great practical significance (pp. 181-2). Whatever the precise provision of the law, the more important consideration is that the richer party can use legal harassment to force others into submission.

Obeyesekere (Chapter 7) gives considerable details of how speculators invest cash in the purchase of Thattumaru-Kattimaru shares with the intention of enlarging them by legal or extra-legal harassment of

other shareholders. A common strategy is to seek out the descendants of persons who have left the village, especially females who have married out, purchase from them for a nominal sum a share which they did not previously even believe themselves to possess, and then present oneself to the village as a genuine claimant. Weerawardena and Collonnege (p. 54 and pp. 64-65) report the same kind of phenomenon, and the present authors found evidence of it in Ihala Lelwala. It seems significant that we find mention of this kind of speculation in shares only in the three sample villages where the rotational tenure system is complex. It is complexity which creates the necessary background for speculation.

Very detailed analysis of individual disputes may be found in Obeyesekere's book, and it is not necessary to recount further examples here. We shall instead illustrate the problem of disputes and conflicts by categorising the main issues over which they occur. In most kind of cases either deliberate aggression or genuine uncertainty or a mixture of both may be the root cause.

(1) One of the most common causes of conflict are attempts by shareholders to cultivate more than their due. They may either cultivate in a year when their turn does not come up, or attempt to cultivate a larger area than they are entitled to, sometimes by changing the position of bunds. Disputes over the position of bunds are especially likely if a given plot must be sub-divided differently each year. One man's success in enlarging his rights may generate disputes among other shareholders as each tries to enforce his rights on the diminished area available.

(2) In a similar way, complete outsiders who have no legal rights at all may exploit the complexity of a case, and perhaps the temporary absence, sickness or weakness of a legal shareholder, by cultivating a share. Once this has been done successfully, the aggressor is in a strong position to repeat the performance in the equivalent year in the next cycle. In the absence of written records, recent possession constitutes a strong claim.

(3) Outright aggression of the kind described in the above paragraph is in practice very difficult to distinguish from attempts to revive a share which has been allowed to lapse. There are various reasons why people may allow claims to lapse without ever formally revoking them. Above all, they may leave their native village for long periods of time to work and live elsewhere. Even if they remain at home, they may be fully occupied in some non-agricultural occupation and not bother about a small Thattumaru-Kattimaru share. As shares diminish in size it is inevitable that many do not exercise their cultivation rights. Some may formally rent out their rights to an *ande* tenant in return for a share of the crop; others allow a relative or associate to cultivate it in return for some annual present of grain less formal than an *ande* share, and others, especially those whose shares are very small, do not even expect to receive any paddy, although they still consider that the right to cultivate land is theirs. Over time, these relationships tend to tilt in favour of the actual cultivator.

The *ande* tenant who began by giving a precise share now sends rather less grain somewhat irregularly. The cousin who regularly sent half a bushel of paddy before each Sinhala New Year to the owner in Colombo may begin to find it difficult and expensive to get to Colombo at that time of year, and gradually cease to send any. The experience of cultivating a piece of land regularly without paying any rent eventually leads the cultivator to believe he has a moral right to the land. If the original owner retires to the village from his job in Colombo and decides to cultivate his 'own' land again, or perhaps merely to re-assert his right in order to sell the land, then he is likely to meet resistance from the cultivator, and may have difficulty in establishing the validity of his claim. Even more resistance will be met if the original owner has died and the claim is made by someone who says he is the heir and who may scarcely ever have visited the village before.

Heirs may disagree among themselves. Especially common are problems arising from the existence of different norms about inheritance by females. Indigenous traditions and imported legal codes differ considerably on this, while there is a wide range of disagreement about how far the dowry given a female on marriage is the equivalent of her share of the family inheritance. Females are more likely than males to leave their native village at marriage. A family's Thattumaru-Kattimaru rights may be enjoyed by one or more sons for many years, and yet be challenged in the next generation by the children of their sister who left the village on marriage. (See above).

Thus the number of claimants to Thattumaru-Kattimaru shares is, especially in the more complicated cases, not an absolute number but a flexible quantity which varies with the benefits involved. The greater the likelihood of receiving some kind of benefit, the greater the number of people who will bring forward hitherto unsuspected claims. In their very thorough study in Mahagama village, Weerawardena and Collonnege registered 4045 claims to shares; 1077 of these claims were not actually being exercised by cultivation of the land or acquisition of a share of the crop (p. 95).

(4) Disputes over lapsed rights are more likely where the rights have been sold. Obeyesekere (p.174) found that speculators deliberately sought and purchased such shares in order to give them a legal claim to the land. Cultivators may sometimes physically resist such attempts by complete outsiders to re-activate lapsed claims.

(5) A fifth cause of disputes is that people sometimes forget to take their turn, especially if the cycle is long and their turn comes infrequently. By the time that they remember it may be too late to cultivate in the current season. They may however attempt to assert their rights during the next season (of the same year), annoying the other cultivators who then have to re-build their bunds.

(6) In some villages, including Ihala Lelwala, *kalawitas* - raised plots for non-paddy crops - are located in Thattumaru-Kattimaru paddy plots. Owners of *kalawitas* often gradually enlarge them at the expense

of the paddy field. This leads to disputes among paddy cultivators as each tries to assert his full rights over a field of diminishing size.

(7) Shareholders in Pure Kattimaru and combined Thattumaru-Kattimaru cases are subject to the temptation to try to put an end to the Kattimaru rotation and cultivate one good piece of land for themselves whenever their turn comes. One group of shareholders may take over the best pieces of land and attempt to cultivate them each year against the opposition, and to the cost, of the other persons entitled to cultivate that year.

(8) Finally, even if shareholders are agreed in principle that a permanent partition of their land is desirable, they may come into conflict over the precise way the land is to be divided. Our field work suggests that those who take the initiative to suggest a permanent division in any particular year are those who have possession of the most fertile piece of land that year. A person who objects to that specific proposal may himself propose a division by mutual agreement in a later year when he would himself be favoured. Similar forces are at work in cases of attempts to enforce a legal division in the courts. Unless all shareholders are in perfect agreement and organised to hire a lawyer jointly according to an agreed division of the costs, then the initiative must be taken by one man. That man will have to bear the bulk of the legal costs, even if in the judgement others are required to pay a share of them. It is therefore understandable that the initiator of the action should normally attempt to claim either the best land or a larger share than he is entitled to.

The possibilities of conflict in the Thattumaru-Kattimaru system are thus very wide ranging. Many cases are operated without any overt conflict but it seems that in general the system is more conducive to dispute than to harmony. Everything else being equal, a village without rotational tenure will probably be more peaceful than one with.

12. ABOLITION, REFORM OR LAISSER-FAIRE?

There is a wide range of possible steps which government could take to mitigate the adverse consequences of rotational tenure. For convenience we can categorise them into five basic strategies, along the lines of the classification suggested by Weerawardena and Collonnege (pp. 84-5).

(i) Divide up each estate into permanently owned plots and allocate them to some or all of the present shareholders/cultivators in proportion to their rights.

(ii) Combine strategy (i) with some kind of land consolidation. In villages where there is a great deal of Thattumaru-Kattimaru land and many people own shares in more than one case, it may prove feasible and possible to consolidate all Thattumaru-Kattimaru holdings. Otherwise the division of Thattumaru-Kattimaru estates might be part of a general consolidation of all paddy land.

(iii) Maintain the current ownership system, but cultivate each estate as a single block with all shareholders contributing to cultivation expenses and perhaps labour, and sharing the harvest. Contributions and remunerations would have to be proportional to shares in the estate.

(iv) Similar to (iii), get agreement of all shareholders on a single permanent tenant to cultivate all the estate, the landlords share of the harvest being divided proportionately among all shareholders.

(v) Finally, acquire all Thattumaru-Kattimaru land, pay compensation to shareholders and allocate the land in permanently-owned blocks to the landless or to some other category of persons.

These five basic strategies have in common the consequence of putting an end to rotational cultivation and introducing a permanent cultivator (or body of cultivators). This should be the primary objective of any attempt to reform the system since the rotation of cultivators is clearly the major deficiency under the present arrangements. There are, however, a number of other objectives of any proposals for reform. In our view the main ones should be, in order of importance : administrative feasibility; the minimisation of the extent of forcible acquisition of land from shareholders unwilling to lose their rights; and the minimisation of opportunities for conflict during the process of reform and in the post-reform institutional arrangements. With all these objectives in mind it seems that only one of the five main strategies is at all feasible; the strategy of permanent sub-division of estates among shareholders. Strategy (v), the acquisition and redistribution in permanent plots of all Thattumaru-Kattimaru land, is unlikely ever to gain any significant support. In villages where rotational tenure is common this strategy would result in widespread expropriation of land, much of it from very poor families. Unlike in the case of land reform, widespread land appropriation could not in this case be justified as penalising the relatively wealthy for the benefit of the poor. Strategies (iii) and (iv) retain the principle of joint ownership but abolish rotational tenure. They are sometimes justified in terms of cooperative principles. Adoption of one of these strategies would be an excellent means of discrediting very worthy principles by attempting to apply them in a very inhospitable context. The basic objection to common ownership of Thattumaru-Kattimaru plots - and even more to joint cultivation - is the enormously high level of organisation which would be required for very small rewards. Most rotational tenure cases involve a large number of shareholders and a very small acreage (Appendix Two). The extent of rights vary considerably from shareholders to shareholder (Section 3). Further, many shareholders do not live in the village where the land is located. Given both the general record of cooperative endeavours in agriculture in Sri Lanka and the complexities of rights in rotational tenure, any expectation that joint ownership and, even more, joint cultivation, could be successfully organised seems optimistic beyond belief. Strategy (ii) - that permanent partition of Thattumaru-Kattimaru plots be undertaken as part of a general consolidation of paddy land - is in principle very attractive. However, one must face the realities. Experimental attempts at land consolidation

have not been very successful, and there is at present no sign either of widespread support for such an endeavour or of the administrative and technical capacity to undertake it. To delay any reform of Thattumaru-Kattimaru until it can be part of more general land consolidation would be, as far as one can foretell the future, tantamount to abandoning the project entirely.

It appears that by a process of elimination of alternatives, we are left with only one possible strategy - the permanent partition of Thattumaru-Kattimaru land among some or all shareholders. Such a strategy should not however be viewed as a last resort for it has a number of positive virtues. Apart from coming nearest to achieving the stated objectives of administrative feasibility and minimum expropriation and conflict, it has the great advantage of being an extremely flexible mode of approach. There are a wide range of different ways in which the general strategy may be pursued. It would be possible to modify the precise approach according to experience and according to the degree of success achieved in tackling particular kinds of situations.

13. A STRATEGY FOR REFORM

If the government were to adopt the strategy of partition of rotational tenure cases among shareholders, there are two main sets of policy issues on which decisions would have to be taken. The first set concerns the identification of cases to be partitioned. Is this decision to be made by the state or on the voluntary request of shareholders? If the state is to decide, should all rotational tenure cases be abolished, or only a defined sub-set of them? If identification is to depend on the shareholders, should one require the unanimous consent of all concerned? If unanimity is not necessary, then what majority of shareholders is required? Is this to be a simple majority of individual preferences, or should each shareholder have a say in accordance to the extent of his or her rights? How to treat *ande* tenants? Whether the identification of cases for partition is to be made by the state or the shareholders, it must be decided whether to attempt to cover the whole country at once or proceed on an area by area basis.

Once the cases for partition have been identified, the main question is which categories of persons should receive permanent rights. Should all shareholders be allocated a plot in proportion to their rights, or should there be a minimum size of plot? If there is to be a minimum, what should that be? Should one take into account other land owned? (For example, one might argue that a man who is otherwise landless cannot be expected to cultivate properly a tenth of an acre, but a man who has other land and is thus already a farmer can be entrusted with a small plot). If shareholders are to lose rights completely, how should they be compensated? What of *ande* tenants? Are they to be eligible to receive land or compensation.

A range of considerations should enter into the decisions which would have to be made about the precise mode of applying the strategy of partition. Not least of these considerations are the views of policy makers and the availability of technical and administrative resources. Equally importantly, the wide range of options leaves a wide scope for learning by experience. That seems particularly important in view of our findings that the nature of operation of the rotational tenure system varies widely from village to village. It is unlikely that our five case studies have yielded information about all important factors. Comparison of the five studies tells us more than do the studies taken individually, but there is probably a great deal more to be learned. For these reasons we will resist the temptation to discuss at length the merits and demerits of each of the wide range of policy decisions relating to partition, or to prescribe an optimum policy. The suggestions which we make below are based on what we have learned from our case studies.

Our principal recommendation is that the process of hastening partition should be started at least on a voluntary basis. This suggestion is founded on a very important observation : that there is a very widespread desire for partition which is frustrated by the absence of any means of doing so cheaply and effectively. Very simple cases may be partitioned by mutual agreement, and there is some shred of evidence that this is fairly common (Footnote 10). There are, however, two major obstacles to the partition of more complicated cases by mutual consent. In the first place, the shareholders fear that the complexity of rights will lead to challenges and disputes after partition. In order to guarantee their rights they prefer a partition effected through the courts, with all the delay and, above all, expense that this involves. It requires only one dissenting shareholder, however small his or her share, to make a legal partition very lengthy and expensive. The second obstacle to mutually-agreed partition is the lack of institutions through which partition may be agreed and arranged. In a complex case the shareholder who takes it upon himself to try to organise partition is committing himself to spending a great deal of time and energy, and perhaps in the process making enemies and himself the subject of gossip. It is scarcely surprising that such prime movers often attempt to compensate themselves by proposing a partition advantageous to themselves, thus incurring the opposition of other shareholders (Section II). Were there available a body - which we shall call a Partition Tribunal - with the legal power to effect a partition without the expense and delay of court procedures, then in a large number of Thattumaru-Kattimaru cases a majority of shareholders would probably call for its services. This Tribunal should work quickly and cheaply, have the necessary surveying and other staff, and as far as possible sit in the villages where the land is situated. This 'Partition Tribunal' could either be a new institution or an adaptation of an existing institution, e.g. the Rural Courts which are to be set up.

The case for requiring the consent of only a majority of shareholders for reference to Partition Tribunal rests on the observation that unanimity is unlikely to be achieved in many cases. Apart from the perversities of human nature, unanimity is made unlikely by the dynamics of legal or quasi-legal decisions about land rights. If unanimity has been achieved, then there is a standing temptation for someone, perhaps

with a weak or spurious claim, to register opposition. The claim itself might not be intended to succeed, but the claimant puts himself in a position where he may make life difficult for personal or political rivals, or more importantly, where he will have to be bribed to withdraw his claim if the procedure is to operate smoothly. In any event, he stands to lose very little and to gain something substantial. Manoeuvring of this kind is no less likely to be absent from the procedure to abolish rotational tenure than it is from the day to day operation of the system.

There is a further reason for not requiring the agreement of all shareholders to a partition. This is that the expropriation of a substantial fraction of them seems inevitable if the system is to be seriously eroded, at least in some areas. This is simply because of small size of many shares. The relevant data are summarised in Table 11. Permanent partition in accordance with the size of shares would leave 98% of all resultant plots in Mahagama village less than a quarter of an acre in size. In two of the other villages a majority of the resultant plots would be in the same size range. Even if offered compensation, many owners of small shares would oppose partition. The expropriation of owners of very small shares seems inevitable. It is not feasible to have a large number of plots of, say less than a tenth of an acre. There will be a wide variety of opinions about the desirable minimum size of plot, many of them based on prejudices or on observation only from one or two areas about the relationship between size of plot or holding and such factors as use of new paddy varieties or practices. Equally the debate over the desirability of 'part-time farming' will be brought to bear. Do families who have non-agricultural jobs make better or worse cultivators than full-time farming families? On a nation-wide basis the answers to these questions are unknown. As in the case of the effect of *ande* tenure on paddy yields, some pieces of evidence point one way and some another way. The consequences of a particular institution are not uniform but depend on the local social context in which it is located.²² It would be optimistic to expect that these issues either could or will be settled in the near future by further field research. The debate will continue for a long time. Unless some sound general conclusions can be reached about the relationship to paddy yields and practices of size of holding and 'part-time farming', then these factors should not be considered in partitioning Thattumarukattimaru land. There should be a minimum size of plot after partition, but that may be decided by reference to purely technical criteria. At what stage do plots become inconveniently small? Apart from this consideration, the principle of minimum land expropriation should be followed. As a rough guide, a minimum size of plot of about a quarter of an acre would probably be appropriate.

As is evidenced by Table 11, a policy of minimum land expropriation subject to a very low minimum size of plot would result in a majority of shareholders losing their rights if partition were to be thoroughly pursued in some areas. Opposition to partition will certainly come from those threatened by such loss. It is also likely to come from those who have ideological objections. There is a view among sociologists, epitomised in Obeyesekere's work, that ownership

of village paddy land is one, if not *the*, essential qualification for membership of the village community as a social entity. According to this view, even the smallest Thattumaru-Kattimaru shares bestow on their otherwise-landless owners an important and valued social status without which they, the village and the nation would be poorer. It is but a short step from there to oppose any possible expropriation. We have some sympathy with this view. It is however many decades too late to be a fundamental consideration of policy. In some way or other a large proportion of the rural population of the low and mid country wet zone have already had their land - and thus their claim to village membership - expropriated. By a mixture of bad luck, fraud, force legal partition and land sales, a large proportion of the rural families have lost any claim to ancestral land and become landless. To protect the rights of a small minority of those who still possess a share in land by preserving the Thattumaru-Kattimaru system would seem far too high a price to pay.

There is another cost of the partition process which is perhaps rather more important than concern with loss of ancestral land. Whatever the procedures involved in partition, and however incorruptible and unbiased the staff of the Partition Tribunal, some persons will benefit at the expense of others. The process will involve dealing with officialdom, familiarity with printed forms and legal terms, the expenditure of time and energy, and probably certain cash costs. Some people are far better equipped to deal with this kind of situation than others. They are in general those who are relatively rich, educated and of high social status. It is inevitable that some of those less well equipped will not find out how to press their claims, will not follow correct procedures, will be unable to gain a sympathetic hearing from the officials concerned, or will not have the resources to pursue a disputed claim. Such inequalities in benefits are associated with virtually every government programme. It is important to minimise them by making procedures as simple, cheap and honest as possible, but they can never be totally eliminated. This certainly does not constitute an argument against partition, since much the same category of persons are equally likely to receive unfavourable treatment in court partition cases²³ or in the actual day-to-day operations of the rotational tenure system.

A policy decision to facilitate the partition of Thattumaru-Kattimaru cases cannot be lightly taken. The establishment of a Partition Tribunal would require special legislation, many decisions must be made about the methods to be used, some shareholders would probably have to be forcibly appropriated (with compensation) and many of the procedures must seem, at least at first sight, complex (Appendix 3). The main danger would be the temptation to begin with a perfect set of principles and procedures to deal with all possible cases. Public officials are generally loath to establish schemes which do not even promise to complete the job in a neat and tidy fashion. The desire for perfection must be avoided. The emphasis must be on starting with schemes which are as simple as possible and which evoke the maximum voluntary participation. As far as possible, groups of shareholders should be allowed to decide whether and how they wish to partition. A voluntary approach will not be able to deal with many of the more complicated cases where shareholders are numerous and shares small.

But there seems to be a strong case for starting with the voluntary principle both in order to learn more about the nature of the system and the problems in partitioning and to see what progress can be achieved. Policies and procedures could be modified in the light of experience.

APPENDIX ONE : STATISTICAL ANALYSIS OF THE INCIDENCE OF ROTATIONAL TENURE

Our statistical analysis of the incidence of rotational tenure was confined to the region where the system is fairly common: the six districts of the low and mid country wet zone (See Table 1). Elsewhere the system is so rare that meaningful statistical analysis is not possible. The hypothesis to be tested was that, within these six districts, the areas with the highest incidence of rotational tenure were the areas with the highest proportions of full-time cultivators. Information on the incidence of full-time/part-time farming (by Divisional Revenue Officers' Division) was available only from 1962 Census of Agriculture. Data on the incidence of rotational tenure in paddy land were available only for 1975, and on the basis of Agricultural Productivity Committee areas. It proved possible to convert these latter data into information for DRO's Divisions only for four of the districts - Matara, Galle, Kalutara and Ratnapura. The statistical analysis thus relates to only four districts, comprising, as of 1962, twenty two DRO's Divisions.

The hypothesis that rotational tenure is positively associated with the proportion of cultivators who are full-time farmers was tested by means of the following regression equation : -

The dependent variable (Y) = The percentage of paddy land under rotational tenure in 1975.

The explanatory variable (X) = The percentage of small-holders (i.e. those operating less than fifty acres of land) who were full-time farmers in 1962,

$$Y = -18.238 + 0.853X$$

$$R^2 = 0.55; P / 0.001; n = 22 \text{ (DRO's Division)}$$

In a statistical sense, 55% of the inter-divisional variation in the incidence of rotational tenure is 'explained' by inter-divisional variation in the proportion of small-holders who are full-time farmers. The larger the proportion of full-time farmers, the larger the proportion of paddy land under rotational tenure. The probability that this result could have arisen by chance is less than one in a thousand. In statistical terms this is a very convincing result. We can definitely conclude that there is a statistical association between rotational tenure and full-time farming. The question of how we interpret this association is discussed in the text.

APPENDIX TWO : SOME STATISTICAL ASPECTS OF ROTATIONAL
TENURE IN THE SAMPLE VILLAGES

Table 8 : Distribution of Cases of Rotational Tenure in the
Sample Villages by Acreage

Acreage	/1.00	1.00- 1.99	2.00- 2.99	3.00- 4.99	5.00+	Total	% of rotational tenure acreage in cases of 2.0+ acres
Village (1)							
Medagama	-	-	-	-	1	1	100%
Mahagama*	9	17	12	6	1	45	63%
Ihala Lelwala*	16	18	6	8	1	49	65%
Unduruwa	2	4	-	1	-	7	28%
Mahagangoda	4	2	1	2	-	9	70%

(1) For authors of studies, see Table 6.

* Refers to a sample of cases only.

Table 9 : Distribution of Cases of Rotational Tenure in
the Sample Villages by Number of Shareholders

No. of share- holders	1-4	5-9	10-19	20-49	50-99	100+	Total Cases
Village							
Medagama	-	-	-	1	-	-	1
Mahagama*	-	1	3	22	6	13	45
Ihala Lelwala*	(22)**	(20)**	(4)**	(3)**	-	-	49
Unduruwa	5	2	-	-	-	-	7
Mahagangoda	3	5	1	-	-	-	9

* Refers to a sample of cases only

** Refers only to shareholders who actually
exercise their cultivation rights.

Table 10 : Percentage Distribution of Plots Under Rotational Tenure by Operational Area during the Year of Survey

Village	Area of operational plots in year of survey (acres)					Total
	<u>/0.25</u>	0.25- 0.49	0.50- 0.99	1.00- 1.99	2.00+	
Medagama	-	13	25	50	13	100
Mahagama	(NO INFORMATION)					
Ihala Lelwala	37	22	29	10	2	100
Unduruwa	-	6	69	25	-	100
Mahagangoda	-	16	47	37	-	100

* Refers to a sample of cases only

Table 11 : Percentage Distribution of Plots If All Land Under Rotational Tenure were Permanently Divided among All Shareholders in Proportion to the Size of Shares Owned⁽¹⁾

Village	Acreage per shareholder				Total	Average acreage per shareholder
	<u>/0.25</u>	0.25- 0.49	0.50- 0.99	1.00+		
Medagama	42	27	31	-	100	0.39
Mahagama*	98	←--2--→		negligible	100	0.02
Ihala Lelwala*	(74)**	(9)**	(11)**	(6)**	(100)	(0.16)**
Unduruwa	17	22	61	-	100	0.47
Mahagangoda	61	24	9	6	100	0.29

(1) Where an individual owns shares in more than one case, each, is treated separately.

* Refers to a sample of cases only.

** Only shareholders who actually exercise their cultivation rights are included.

APPENDIX THREE : PROCEDURAL ASPECTS OF PARTITION

The mechanics of partition will inevitably appear complex, especially where the Thattumaru-Kattimaru cases are themselves complex. Most of the allocation decisions may however be made on the basis of a few standard procedures, which, however involved they may appear, may be applied mechanically once the relevant information is obtained. The important consideration is to keep the procedures as simple as possible. With this end in mind, it may be wise to begin by excluding all shareholders who have not actually exercised their rights during recent years. This will considerably simplify calculations and the victims will suffer little loss.

The definition of the extent of shares in a given estate is made easy by using a simple table. Our example is based on the sample case study described in Section 3. For purposes of illustration we have taken into consideration only owners, excluding tenants. The information on land areas is given in *kurunies*, which are a measure of sown area. There are twelve *kurunies* to an acre in this village. Plots A and B are each twenty *kurunies*, and plot C is fifteen *kurunies*, making fifty five *kurunies* in all. The nature of the calculations involved is clear from the table. The use of such a standard table, publicly displayed should make the procedure clear to most shareholders, and provide a clear basis for defining claims. Within the framework of this kind of table it is easy to accommodate the claims of *ande* tenants. Suppose that a policy decision is taken that *ande* tenants of five years standing are entitled to a half of the share they cultivate, the remainder going to the shareholder. One may then include in this table an extra column for each *ande* tenant.

Year of Cycle	Calendar Year	NAME OF SHAREHOLDER							Total
		Jasinona	Raynis	Alisnona	Sarlis	Seemon	Peter	LL6	
1	1976-77	20	20	15					55
2	1977-78	15+20			10	10			55
3	1978-79	20		15			20		55
4	1979-80	15+20	20						55
5	1980-81	20		15			20		55
6	1981-82	15+20	20						55
Total kurunies cultivated over the cycle		165	60	45	10	10	20	20	330
Percentage share in total estate		50%	18.2%	13.6%	3.0%	3.0%	6.1%	6.1%	100%

The second main problem is to decide on the 'compensation' payable to those who lose their rights because their share of the estate is too small. The following procedure may be considered ; -

(i) Define, on the basis of the kind of table given above, the proportionate share of the total estate belonging to each shareholder.

(ii) Convert that proportionate share into acres. For example in our illustrative case, the nominal entitlement are as follows ; -

Name of Shareholder	Jasinona	Raynis	Alisona	Sarlis	Seemon	Peter	LM6	Total
% share of estate	50	18.2	13.6	3.0	3.0	6.1	6.1	100
Nominal share in acres	2.29	0.83	0.62	0.14	0.14	0.28	0.28	4.58*

$$4.58 \text{ acres} = 55 \text{ kurunies} \div 12$$

(iii) Then eliminate those whose nominal acreage entitlement is below the prescribed floor level. Assuming that the floor level is a quarter of an acre, then Sarlis and Seemon are eliminated from our case.

(iv) Their nominal entitlements are then put up for auction. Those eligible to bid may be either only other shareholders, anyone, or anyone only if the shareholders do not bid up to, say, the average price of land in the locality. Those eliminated because their acreage entitlements were too small may also be eligible to bid, provided that they can build up a nominal holding larger than the prescribed minimum. For example, if Sarlis' share of 0.14 acres is auctioned and Seemon makes the highest bid he will then be eligible to remain as a shareholder, as his holding then becomes 0.14 acres + 0.14 acres, which exceeds the minimum of a quarter of an acre.

(v) Those shareholders who have been eliminated will receive the value of the bid for their share as compensation.

The next problem is to allocate the land among those who, as a result of the above process, are defined as eligible shareholders. Two issues are involved. One is to convert proportionate shares into actual acreages, bearing in mind that, because of differences in soil quality, access to water, proneness to flooding and presence of shade trees, different parts of a plot are valued differently. The second and related issue is how to allocate specific plots to specific shareholders. The easiest case is where all parts of the estate are of equal value, and where all eligible shareholders have equal shares. The plots may then be demarcated by the person(s) who cultivate in the last years of the cycle, and shareholders choose their plots in turn, starting with those cultivating in the first year of the cycle. The man making the division has every incentive to make the plots of equal value, since he will be

left with the one which the others value least. Such cases will be rare, but the general principle that the valuation and demarcation is done in consultation with those who will be given the plots rejected by others may be used. To illustrate how this principle could be applied in different contexts would take up too much space here.

Once plots have been allocated, the allottees may be charged a fee to help meet the costs of the operation. This may be fixed percentage of the assessed value of the land received. The issue of title deeds may be made conditional on receipt of this payment.

The kinds of procedures outlined above seem to be the simplest possible given the objectives of equity and clear procedures. They are, however, far from perfect. They are still relatively complex, and require a certain amount of legal and surveying skills. There is still a role for discretion on the part of the officers concerned, with all the implications that has for possible favouritism and corruption. However, since we are talking only of small areas of land, the costs of unfair treatment are not large. The suggested procedures do not allow any compensation to persons who suffer because the partition is effected just before it is their turn to cultivate. It would be logically easy to build this into the mechanism for allocating land and compensation, but the cost in complicating procedures would be far greater than the likely benefits.

The process of partition is thus bound to result in problems. The greater the role of the legal profession in drafting the procedures and overseeing the process, the worse these problems are likely to be. Rough justice is preferable. Most of the legal and surveying skills required could be learned by unemployed graduates in a period of special training. The potential benefits are big enough to make this kind of special programme feasible, and the work will last for a long time. It would be far cheaper than allocating the job to professional lawyers and surveyors and the quality of the work need not suffer. Enthusiasm and willingness to get into the field are the prime requirements.

APPENDIX FOUR : JOINT OWNERSHIP OF HIGHLAND

In many cases paddy land which was put into rotational tenure was but a part of a total estate, including highland, which was jointly inherited. For example, if a man left a plot of paddy in Thattumaru to two sons, he might also have left his highland to be shared between them. Sharing involved both the right to build a house on the land, and the division of the crop. In practice the principle of division of the crop applies only to trees and shrubs. If a man plants vegetables on jointly owned highland, he is permitted to harvest and retain all the crop. If however one owner plucks a coconut, then his co-sharer is also entitled to a coconut.

Joint ownership of village highland is common in many areas. In Medagama village studied by Obeyesekere all village highland was originally a part of a single estate owned jointly by all heirs of the founders. Joint highland ownership is still common in Ihala Lelwala. We know relatively little about the actual way in which people inherit and enforce rights in jointly owned highland. Obeyesekere, for example, says very little about this, but concentrates on paddy land. Since rights to cultivate highland are not rotated, this kind of complexity is avoided. But shares nevertheless become extremely fragmented. In practice shareholders cannot all take advantage of their nominal rights. For example, each cannot claim a piece of the ancestral highland for a homestead, as this very quickly becomes physically impossible. Equally, a small share of a piece of highland ceases to have much economic value. Nevertheless, it is extremely common for shareholders to continue or to assert their rights by symbolically plucking a few coconuts or jaks occasionally. This may be for reasons of sentiment. Equally, it may be wise to maintain a claim in the event of a piece of land becoming valuable at some stage. For example it may be acquired by government for some public building and compensation paid.

Attempts by holders of small shares to maintain nominal rights may result in all kinds of situations which appear absurd or comical to the outsider. Fairly recently a jak tree was blown down by a storm in Ihala Lelwala. For weeks it lay untouched until the man who lived on the land decided to saw it into planks. A neighbouring shareholder then made a claim, and agreed to accept cash compensation. But the two disputed about the value of the tree. As news of the dispute spread, other shareholders flocked to claim their share. It took some time before an agreement was reached. In 1951 three trees were sold in Ihala Lelwala for Rs. 50. We reproduce below some of the details of the document in which the village headman calculated the amount of money owned to each shareholder of the land on which the trees stood.

Name of shareholder	Share	Cash Value
K.G.D.A. de Silva	$(1/5 \times \frac{1}{2}) + (1/5 \times \frac{1}{2} \times (1/5)) + (1/5 \times \frac{1}{2}$ $\times 1/5 \times \frac{1}{2}) + (1/5 \times \frac{1}{8} \times \frac{1}{2}) + (1/5 \times \frac{1}{8} \times \frac{1}{2}$ $\times 1/3) + (1/5 \times \frac{1}{8}) + (1/5 \times 1/3 \times \frac{1}{8} \times \frac{1}{2}) +$ $(1/5 \times 1/3 \times 13/20) + (1/5 \times \frac{1}{2}) + (1/5 \times \frac{1}{2} \times 1/4)$	Rs.18.40

Name of shareholder	Share	Cash Value
B.T. Andrayas	$(1/5 \times \frac{1}{2} \times 2/5) +$ $(1/5 \times 1/3 \times 1/5 \times \frac{1}{2} \times 1/4)$	Rs. 6.43

There were fourteen other shareholders, owed Rs. 7.60, 4.70, 1.68, 0.55, 0.82, 0.55, 1.95, 1.80, 1.95, 0.97, 0.73, 0.46, and 0.46 respectively.

Because the assertion of rights to joint highland is by such momentary actions as plucking a few coconuts, there tends to be rather more ambiguity about rights than in the cases of rotationally cultivated paddy land. The system is a goldmine for litigiously-minded villagers. Long-forgotten claims to shares may be revived by a careful look at available records, and the person who believes himself to have legitimate sole rights to a plot of land may be put to great inconvenience and expense if an opponent decided to purchase these forgotten rights and claim a share of the land.

The case for speeding up partition of jointly-owned highland is far less strong than in the case of paddy, since the detrimental effects on production are less, and the situation likely to be even more complex. It may be best to let sleeping dogs lie in this case.

N O T E S

1. See Ganewatte, P., "*Thattumaru*" and "*Kattimaru*" *Systems of Rotation of Cultivation of Paddy Land*, Occasional Publication Series No.6, Agrarian Research and Training Institute, Colombo, 1974, pp 1-3; Obeyesekere, G., *Land Tenure in Village Ceylon*, Cambridge University Press, 1967, pp. 35-36; Weerawardena, I.K. and Collonnege, I., *Thattumaru-Kattimaru Study*, Division of Rural Institutions and Productivity Laws, Colombo, 1971, mimeo, pp. 14-24.
2. Weerawardena, and Collonnege, p. 17.
3. Weerawardena and Collonnege, pp. 22-23.
4. The ensuing discussion of cultivation techniques relates largely to the low and mid-country wet zone of Sri Lanka, the region where Thattumaru-Kattimaru is heavily concentrated.
5. In almost all the low and mid country wet zone average harvests today yield a return of more than ten-fold on seed used; many old people can remember when the rate of return was much lower. The average rate of return in other parts of the island is much above ten-fold.
6. Because of these terminological problems, we agree with Obeyesekere (p.36) that official statistics are more likely to understate than overstate the true incidence of rotational tenure. They are obtained by asking officials 'How many acres of land under Thattumaru-Kattimaru are there in your division?'
7. Weerawardena and Collonnege, p. 6. The figures used in this paper are considered to be more accurate.
8. Three factors appear to contribute to the rarity of rotational tenure in the dry zone. One is the relatively high proportion of non-Sinhalese - Muslims and Tamils - in the population. The second is that a high proportion of paddy land there has only been opened up for cultivation in recent decades under large scale colonisation schemes. The third is that in many of the old tank-irrigated villages cultivation was in the recent past organised along lines which precluded both the necessity for and possibility of rotational tenure. The total acreage to be cultivated by the village was determined collectively according to the amount of water available in the tank; individuals were then allocated areas to cultivate according to the proportion of the village 'estate' which they owned. (See Leach, E.R., *Pul Eliya : A Village in Ceylon*, Cambridge University Press, 1965, Chapter 5).
9. Obeyesekere, Chapter 7.

10. For example, in our case-study village of Mahagangoda, there were nine cases of Thattumaru-Kattimaru in 1976, while a further three cases (one simple Kattimaru and two Simple Thattumaru) had been permanently sub-divided by mutual consent of the shareholders within the previous three years.

11. And it has a relatively high incidence of Thattumaru-Kattimaru in paddy land - 47%, - as opposed to 18% for the District as a whole. (Data from same source as Table 1).

12. Obeyesekere follows local terminology in his study, using the term "Thattumaru" to refer both to what is generally known as "Kattimaru" and to what we have called "Combined Thattumaru-Kattimaru".

13. Thus Obeyesekere's village of Medagama had a population of only 289 at the time of his field work (in 47 families).

14. And thus makes it difficult to organise, among other things, insurance for paddy harvests.

15. The village they studied included 188 acres of paddy land in rotational tenure. In the year 1970-71 the Cultivation Committee officially recorded 122 disputes and complaints relating to the cultivation of this land (pp. 58-68).

16. It is however not clear from the report whether or not the respondents were offered the possibility of compensation for transferring shares.

17. There is a delightful and very relevant quotation in Ganewatte's case study (p.8). "One farmer illustrated the effect of Thattumaru-Kattimaru on productivity..... by quoting the Sinhala saying 'Andihath Denage Kande Wage' : when literally translated this means 'like the rice porridge of the seven wanderers'. (Seven wanderers were preparing porridge one morning. Each was expected to put a handful of rice into the pot of boiling water. Each wanderer deceived the rest by pretending to put in his fistful, but in fact not making any contribution. He wanted to enjoy the porridge at the expense of the others. After sometime the seven wanderers got together to enjoy the rice porridge but found to the amazement of everyone there was only boiling water and no porridge!)."

18. This information is not available for Mahagangoda.

19. See Obeyesekere, pp. 166-178, and Nadaraja, T., "The Administration of Justice - 1796 to 1948, II. The Law", in De Silva, K.M. (ed) *History of Ceylon, Volume 3, From the Beginning of the 19th Century to 1948* Colombo, 1973.

20. Obeyesekere, pp. 179-182.

21. Ibid.p. 181.

22. See Peiris, G.H., " Share Tenancy and Tenurial Reform in Sri Lanka " *Ceylon Journal of Historical and Social Studies*, N.S. 6 (1), January - June, 1976.

23. Obeyesekere, Chapter 7.
