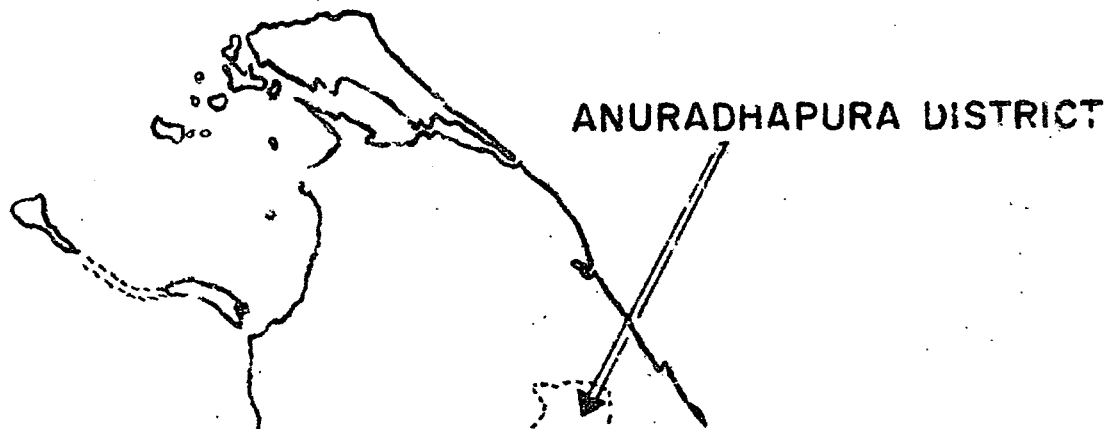


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AGRARIAN RESEARCH & TRAINING INSTITUTE
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"THATTUMARU" AND "KATTIMARU"
SYSTEMS OF ROTATION OF
CULTIVATION OF PADDY LAND

A CASE STUDY IN THE VILLAGE OF

UNDURUWA HALMILLAWEWA

ANURADHAPURA DISTRICT

SRI LANKA 1974

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PREFACE

In 1973 FAO collected together a number of case studies representing various aspects of "Contemporary Changes in the Agrarian Structure".

Sri Lanka presented a series of six such case studies to the Asian Experts Consultation in Agrarian Reform at Bangkok in November. Responding to the suggestion of the FAO that the case studies should be made available to wider readership, the six Sri Lanka Studies have been reproduced in the 'Occasional Publication Series' of the Agrarian Research and Training Institute.

Readers of Occasional Publication - No.4 will recognise the name of Unduruwa Halmillawewa village and recall reference in tract 2, Kagama Kattiya Special Project to the unique systems of rotational cultivation of paddy lands in Sri Lanka. The present study describes in detail the operation of the systems, both of which occur in this village and are a characteristic feature of more than 70,000 acres of the country's paddy lands.

The Agrarian Research and Training Institute acknowledges the kind permission of the Land Commissioner, Mr. K. N. Weerakkody and the Chairman of the Mahaweli Development Board, Mr. H. de S. Manamperi, to use data collected earlier under their auspices and recently revised in the field for the FAO Series by the author.

1/ According to Statistics of the Department of Agrarian Services.

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"THATTUMARU" AND "KATTIMARU" SYSTEMS OF ROTATION
OF CULTIVATION OF PADDY LAND: A CASE STUDY IN
THE VILLAGE OF UNDURUWA HALMILLAWEWA ANURADHAPURA
DISTRICT - SRI LANKA 1974

1. INTRODUCTION:

Paddy land owners of rural Sri Lanka adopt a unique system of rotation of cultivation rights when a parcel of paddy land is jointly owned by several co-owners. Instead of partitioning the parcel among the co-owners, thereby reducing economic viability they follow an age old system of rotating cultivation rights. When several co-owners jointly own one parcel of paddy land, each owner takes his turn in cultivating this parcel. This is usually referred to as the Thattumaru system. When several co-owners possess two or more parcels of paddy land of approximately similar size they take turns in cultivating the parcels in rotation, this system is usually referred to as 'Kattimaru'.

In this study the operation of the Thattumaru and Kattimaru systems in the Purana Village (old or traditional village) of Unduruwa Halmillawewa, Anuradhapura District, Sri Lanka, is examined.

In Study No. 2. "*Fragmentation of Paddy Land in a Cluster of Five Villages in Anuradhapura District, Sri Lanka*", page 42, the profile of the Purana Village, the problem of fragmentation of paddy land etc. are discussed in detail. The village Unduruwa Halmillawewa is one of the villages in this 'cluster'..

1.1 Definition of Terms:

1.1.1 Thattumaru System:

The term 'Thattumaru' is made of two Sinhala words 'Thattu' or 'Thattuwa' and 'Maru'. The word 'thattu' is interpreted in several ways. One interpretation is that thattu or thattuwa means shelf or layer. The word 'Maru' means change or rotation. Thattumaru therefore means 'change of shelf'.

Another popular interpretation is that Thattu or Thattuwa means a tray of food. The tray of food that is offered to inferior and malevolent supernatural beings is usually referred to as 'Thattuwa Denawa' (giving a tray of food). The offering of food to superior and benevolent supernatural beings is usually referred to as giving a 'puja wattiya' - (a sacred basket of food). In the context of this interpretation thattumaru means 'changing the tray of food'.

A plot of paddy land is virtually a 'tray of food' and in the Thattumaru system when several co-owners jointly own one plot of paddy land the 'food rights pass from one owner to another until all co-owners enjoy the food rights'.

Several farmers indicated another interesting interpretation of 'Thattumaru'. They indicated that the word 'Thattuwa' is derived from the term 'Elath Thattuwa' (or Bulath Thattuwa) - a tray of betel. In a tray of betel there are betel leaves, arecanut, tobacco and slaked lime. It is customary for this tray of betel to be offered to all visitors, irrespective of rank, status and caste. 'Thattumaru' therefore means passing the tray. One enjoys a chew of betel and passes the tray to the next, until all have partaken of the betel. Similarly in the 'Thattumaru' system of land rotation several co-owners take turns once a year with the plot of paddy land.

There are several other synonyms of 'Thattumaru'. These are 'Mura Maru', 'Sorumaru', and 'Karamaru'. The term 'Muramaru' is derived from the term 'muraya' - season or chance and muramaru means changing or rotating the season or chance. Another interpretation of 'Muramaru' is changing or rotating the 'Watch' or 'Guard'. In this context the guardianship of a plot owned by several co-owners is entrusted to one co-owner for one year. Guardianship entails not only cultivation, but also meeting other obligations as a paddy cultivator - efficient use of irrigation water, construction of boundary fences when necessary, and preventing encroachment by others.

The term 'Soramaru' literally means changing or rotation of rice. (Soru in Tamil means cooked rice). This term is not used by farmers of Unduruwa Halmillawewa.

The term 'Karamaru' is a much more popular term. Kara is a Sinhala word meaning 'shoulder' and 'Karamaru' means 'changing the shoulder'. Several co-owners shoulder the responsibility of cultivation of the plot of paddy land once every year.

The term 'Thattumaru' or its synonyms 'Muramaru', 'Soramaru', 'Karamaru' all mean rotation of change of the cultivation rights of a plot of paddy land owned by several co-owners.

1.1.2 The System of Kattimaru:

The term 'Kattimaru' is derived from two words - 'kattiya' and 'maru'. 'Kattiya' means plot, parcel, or bloc of land, and 'maru' means change or rotation.

In the 'Kattimaru' system when several owners jointly own two or more parcels of paddyland of approximately equal size one co-owner cultivates one plot of paddyland in one year and rotates to another plot the next year until all co-owners have an opportunity of cultivating all plots of paddyland.

In Unduruwa Halmillawewa another term that is used interchangeably with 'Kattimaru' is 'Kuttimaru'. The word 'kutti' (or 'kuttiya') means 'chunk', parcel or share, and 'maru' means change or rotation.

2. OBJECTIVES OF THE STUDY:

The objectives of the study are:

- (i) to study the operation of 'Thattumaru' and 'Kattimaru' systems (rotation of paddy land between several owners) in the village of Unduruwa Halmillawewa with special reference to the operation of the two systems.
- (ii) to study the effect if any of the 'Thattumaru' and 'Kattimaru' systems in preventing the fragmentation of paddy land in the village of Unduruwa Halmillawewa.

3. METHODOLOGY OF STUDY:

The technique used was the depth interview method. The Secretary of the Unduruwa Halmillawewa - Katukeliyawa Cultivation Committee resident in the village, and several leading farmers suggested by the Secretary of the Committee was interviewed by the writer. The official records available with the Secretary were also studied.

4. THE VILLAGE OF UNDURUWA HALMILLAWEWA;

It is generally believed that the village of Unduruwa Halmillawewa was an 'Olagama' of the village of Galkiriyagama. The term 'Olagama' can be defined as an uninhabited village where the paddy land is cultivated by people of other villages who are responsible for the repair and maintenance of the village tank. As an Olagama most of the paddy lands in this village are owned by families from neighbouring villages.

As population increased an 'Olagama' became inhabited and lost its inferior status of 'Olagama'. Unduruwa Halmillawewa gained the status of a 'Purana' village in the beginning of this century. The village gets its name from the tank 'Unduruwa Halmillawewa'. The prefix Unduruwa is used to distinguish this tank from numerous other tanks of the same name - Halmillawewa Unduruwa Korale is the Revenue sub-division and Unduruwa Halmillawewa means the 'Halmillawewa' of 'Unduruwa Korale'.

The village today can be referred to as a satellite village of Galkiriyagama. Most of the residents are from the neighbouring village of Daniyagama, Radaganwatta and Galkiriyagama. (See Study No. 4)

4.1 Land Tenure in Unduruwa Halmillawewa:

4.1.1 Paddy Land:

Within the confines of Unduruwa Halmillawewa there are 71 acres of paddy land. This acreage can be referred to as 'asweddumised' paddy land - i.e. land levelled and irrigable which can be cultivated with paddy. The extent actually cultivated (wapasariya) is only 51 acres. Of this paddy acreage 34 acres or 66.6% are owned by outsiders.

4.1.2 Highland:

There are 72 acres of highland in the village. About one half of the acreage is in the 'gangodella' - residential part of the village, and the rest is in the outskirts of the village. Of the 72 acres, 23 acres were allocated to villagers under village expansion and this is usually referred to as 'Badu Idan' - land given on lease by the Government.

4.1.3 Chena Land:

There is abundance of Chena land (burnt jungle land with shifting cultivation, under rainfed conditions) in and around the village of Unduruwa Halmillawewa. Almost all families (20 families in Unduruwa Halmillawewa) cultivate one to three acres of chena land, usually encroachments on state forests. The main crops cultivated in chena are Kurakkan, gingelly, green gram, chillie, tobacco and vegetables. The cultivation of chena land is the mainstay of Unduruwa Halmillawewa and almost all cultivators made 'good money' from chilli harvests last year.

4.2 Fragmentation of Paddy Land in Unduruwa Halmillawewa:

The pattern of fragmentation of paddyland is indicated in Table I.

Table I: Fragmentation of Paddy Land in Unduruwa Halmillawewa 1973

Unite of Parcel	No of parcels	Percentage of Total No. of Parcels.
(a) Less than 1/8 acre	27	17.0
(b) 1/8 acres and 1/4 acre	59	37.1
(c) 1/4 acres and 1/2 "	31	19.5
(d) 1/2 " 3/4 "	28	17.6
(e) 3/4 " 1 "	8	5.0
(f) 1 - 2 acres	6	3.8
Total	159	100.00

The total extent of paddy land cultivated in 1972/73 is 51 acres. This is divided into 159 parcels, owned by 89 farmers, with each farmer owing an average of 1.8 parcels per farmer. Table II indicates more than half of the parcels at below 1/4 acre. The break-up of the paddy land into parcels is given in Table II.

Table II - Ownership of Parcels of Paddy Land, Unduruwa Halmillawewa 1973

Ownership Pattern	No. Owning	% of Ownership	No. of parcels	% Distribution of parcels
1 parcel	48	54.0	48	30.2
2 parcels	22	24.7	44	27.7
3 parcels	11	12.4	33	20.7
4 parcels	6	6.7	24	15.1
5 parcels	2	2.2	10	6.3
over 5 parcels	-	-	-	-
Totals	89	100.0	159	100.0

It should be noted that the farmer who owns only one parcel in this village may in fact own several parcels in the neighbouring fields of Galkiriyagama, Kadadekawewa and Daniyagama.

5. THE OPERATION OF THE THATTUMARU SYSTEM:

In the village of Unduruwa Halmillawewa there are six cases where the Thattumaru system is operating. In the discussion of these cases reference is made to the plot where the parcel of paddy land is located. As indicated in Case Study No. 2 reference is made to the division of the 'Welyaya' - main stretch of paddy field into smaller plots. These plots are named from their location, characteristics or after the original owners. Several parcels of paddy land are included in each plot.

5.1 Case No. 1:

A parcel of paddy land about 1½ acres in extent in the Kohabagas-kotuwa plot is owned by three persons, first cousins. These owners are R.W.M. Gunaratne, D.B.M. Ehelepola and B.R. Ekanayake. Each owner takes turns in cultivating the 1½ acre plot as follows:-

1972/73 - (both seasons) B. R. Ekanayake
 1973/74 - (" ") R.W.M. Gunaratne
 1974/75 - (" ") D.B.M. Ehelepola

B. R. Ekanayake had cultivation rights in 1972/73 and he will get his change again in 1975/76.

5.2 Case No. 2:

A parcel of paddy land, also about 1½ acres in extent, in Meegaskotuwa plot in the Unduruwa Halmillawewa field, is owned jointly by sisters and a female first cousin. They are: D.B. Wakkiamma, D. B. Anula Kumarihamy (sisters); E.M.Seelawathie Kumarihamy (first cousin of Wakkiamma and Anula Kumarihamy). The cultivation rights are as follows:-

1972/73 - (both Seasons)	D.B. Anula Kumarihamy
1973/74 - (" ")	E.M.Seelawathie Kumarihamy
1974/75 - (" ")	D.M. Wakkiamma

5.3 Case No. 3:

A parcel of paddy land 1 rood and 24 perches in extent, in the Daniyagama plot is owned by two brothers: M. Mudiyanse and M. Senanayake. The cultivation rights of the parcel of paddy land is as follows:-

1972/73 - (both seasons)	M. Mudiyanse
1973/74 - (" ")	M. Senanayake

5.4 Case No. 4:

A parcel of paddy land 1 rood and 24 perches in extent in the Daniyagamswela plot is owned jointly by two sisters; the sisters take turns in the cultivation of their plot as follows:-

1972/73 - (both seasons)	D.A. Baiamma
1973/74 - (" ")	D.A. Babyamma

5.5 Case No. 5:

A parcel of paddy land 1 acre in extent in the Helambagaha plot is jointly owned by two first cousins - D.B. Ekanayake and E.M. Muthu Banda. Each co-owner cultivates this parcel of paddy land as follows:-

1972/73 - (both seasons)	D.B.Ekanayake
1973/74 - (both seasons)	E.M.Muthu Banda

THE OPERATION OF THE KATTIMARU SYSTEM:

In Unduruwa Halmillawewa there are two instances of Kattimaru system in actual operation.

6.1 Case No. 6:

Six co-owners who are closely related jointly own two parcels of paddy land. One parcel is located in the 'Meegaskotuwa' plot and the other parcel in the 'Kohombasgaskotuwa' plot in the Unduruwa Halmillawewa field. The parcel of 1½ acres in Meegaskotuwa plot is considered more

fertile than the 1½ acres parcel in Kohombagaskotuwa plot. The six owners, in two groups of three, take turns in cultivating the two plots, as indicated in the diagram below:-

Parcel No.1
Cultivators

Parcel No.2
Cultivators

1972/73:

1. Seelawathie Kumarihamy
2. D.B.M. Ehelepola
3. D.M. Wanniamma

4. B.R. Ekanayake
5. R.W.M. Gunaratne
6. B.D. Anula Kumarihamy

1973/74:

4. B.R. Ekanayake
5. R.W.M. Gunaratne
6. D.B. Anula Kumarihamy

1. Seelawathie Kumarihamy
2. D.B.M. Ehelepola
3. D.B. Wanniamma

1974/75:

1. Seelawathie Kumarihamy
2. D.B.M. Ehelepola
3. D.B. Wanniamma

4. B. R. Ekanayake
5. R.W.M. Gunaratne
6. B.D. Anula Kumarihamy

6.2

Case No. 7:

Five co-owners who are first cousins own 1½ acres of paddy land in two parcels of approximately ¾ acre each in the 'Madapangu' and 'Atapattumulla' plots. Two brothers E.M.P. Banda and E.M.D. Banda own half share of 'pangu' of the 1½ acres and two sisters and a brother K.B. Babyamma and K.B. Neelamma and K.B. Muthu Banda own the other half share of 1½ acres. All are first cousins. The five co-owners in the two groups cultivate two plots in rotation as indicated in the diagram:

Plot No. 1 (Medapangu)

Plot No. 2 (Atapattumulla)

1972/73:

1. E.M.P. Banda) brothers
2. E.M.D. Banda)

3. K.B. Babyamma) sisters
4. K.B. Neelamma) &
5. K.B. Muthu Banda) brothers

Plot No. 1

Plot No. 2

1973/74:

3. K.B. Babyamma
4. K.B. Neelamma
5. K. B. Muthu Banda

1. E.M.P. Banda
2. E.M.D. Banda

7.

THATTUMARU AND KATTIMARU SYSTEMS OPERATING TOGETHER:

Although the writer did not observe the system of Thattumaruru and Kattimaruru systems operating together in Unduruwa Halmillawewa the writer is aware of the two systems operating together in the neigh-

bouring villages. As a theoretical proposition the two systems could work simultaneously in one operation. A model of such a system is given below:-

	Parcel No.	Parcel No. 2
1972/73	Farmer A	Farmer D
1973/74	Farmer B	Farmer C
1974/75	Farmer C	Farmer B
1975/76	Farmer D	Farmer A

If there are two parcels of paddy land - Parcel No.1 and Parcel No. 2 of about equal extent owned by four farmers; A, B, C and D, then under the Thattumaruru system Farmer A will cultivate Parcel No. 1 in 1972/73; Farmer B in 1973/74; Farmer C in 1974/75 and Farmer D in 1975/76.

Under the Kattimaru system the owners will rotate from Parcel No. 1 to Parcel No. 2 Farmer D will cultivate Parcel No. 2 in 1972/73; Farmer C in 1973/74; Farmer B in 1974/75 and Farmer A in 1975/76.

There is rotation of cultivation rights of Parcel No.1 and Parcel No.2 between the four owners (Thattumaruru system) and these four owners will rotate from Parcel No. 1 to Parcel No. 2 (Kattimaru system).

8. THATTUMARURU AND KATTIMARURU AND FRAGMENTATION OF PADDY LAND.

The actual operation of the Thattumaruru and Kattimaru systems of rotation of paddy land was illustrated in paras 5 and 6. If the two systems were not in operation further fragmentation of paddy land would have taken place. This is illustrated by the schedule below:

Case Nos. (see para 5 & 6)	Existing No. of parcel under Thattumaruru Kattimaru	Extent of parcel un-existing, parcels in acres	No. of parcels if Thattumaruru & Kattimaru are not operating	Extent of parcels if fragmented (in acres)
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Thattumaruru:

5.1	1	1.5	3	0.5
5.2	1	1.5	3	0.5
5.3	1	0.4	2	0.2
5.4	1	0.4	2	0.2
5.5	1	1.0	2	0.5

Kattimaru:

6.1	2	3.0	6	0.5
6.2	2	1.5	5	0.3

Total	9	9.3	23	
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The above schedule indicate that there are 9 parcels (9.3 acres in extent) operated under the Thattumaru and Kattimaru systems. The average size of parcel is 1.03 acres. If there was no Thattumaru and Kattimaru systems the 9 parcels would be fragmented into 23 parcels with each parcel reduced on the average to 0.4 acres.

Many farmers interviewed indicated that there is a relationship between the size of parcel of paddy land and productivity. They consider that it is possible to use modern methods and techniques, and make more efficient use of inputs, and at a more economic rate with a big parcel of paddy land. It would be interesting to test the validity of this variable (size of paddy parcel) and productivity under local conditions.

9. OTHER EFFECTS OF THE THATTUMARU AND KATTIMARU SYSTEMS:

9.1 Ande Cultivation (Tenant Farming):

The writer observed that the system of 'ande' cultivation (tenant farming) was closely linked to the Thattumaru and Kattimaru system. Many of the farmers in the cases cited in paras 5 and 6 functioned as 'ande' cultivators during the interim period when the parcel was cultivated by other co-owners.

9.2 Conflicts and Tensions:

The major areas of conflict and tension in the usually calm and peaceful village setting are those arising from boundary disputes, sharing of irrigation water, destruction of crops by stray cattle and particularly with regard to ownership and land tenure. There tends to be greater conflict and tension as a result of fragmentation of paddy land. Seldom do farmers sell even the smallest parcel in the ancestral field. Ownership of even the tiniest parcel gives the owner prestige and recognition in the community. The Thattumaru and Kattimaru systems therefore tend to reduce conflicts and tensions.

9.3 Productivity:

It is generally believed that fragmentation of paddy land has an impact on productivity. Fragmentation of paddy land into small parcels tends to decrease productivity, particularly as the process continues. In this context it would appear that the Thattumaru and Kattimaru systems act as a check on further fragmentation, thereby ensuring high productivity. However, several farmers involved in the Thattumaru and Kattimaru systems (paras 5 and 6) indicated that due to the operation of the two systems productivity has in fact been lowered. One farmer illustrated this 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 one 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 to the amazement of everyone there was only boiling water and no porridge!).

The analogy of the rice 'porridge' of the seven wanderers is applicable to the Thattumaruru and Kattimaruru systems. Each co-owner wanted to get the maximum from the soil, but was reluctant to improve the bunds of the parcel of paddy land, clear the irrigation ditches or to put adequate manure, as he hoped the other co-owners would do these. He wanted to do the minimum and get the maximum from the land, thus lowering potential productivity.

10 GENERAL CONCLUSIONS FROM THE STUDY:

The terminology used and the practical operation of the Thattumaruru and Kattimaruru systems differ from region to region. The tentative conclusions that follow may be applicable to other Purana villages of the dry zone of Sri Lanka. In the interpretation of the tentative conclusions consideration should be given to the limitations of this study. It should also be noted that this study deals with one Purana village as it exists in 1973.

A legitimate question that should be raised is 'what would be the position of the next generation in the operation of the Thattumaruru and Kattimaruru system?' Many farmers interviewed indicated that the pattern will continue as long as the co-owners are alive. Then a male member of the family of the deceased co-owner will continue as active partner of the Thattumaruru and Kattimaruru system. The new co-owner will share the produce with the other members of the family without disrupting the system. The cases of Thattumaruru and Kattimaruru cited in paragraphs 5 and 6 have been in operation for generations.

10.1 SUMMARY:

1. In the Thattumaruru system several co-owners rotate ownership rights and each co-owner takes turns in cultivating the parcel for one year. In the Kattimaruru system several co-owners owning several parcels of paddy land take turns in cultivating the plots in rotation.
2. The Thattumaruru and Kattimaruru systems usually operate with members of the same family or close kin.
3. Excessive fragmentation of paddy land is prevented by the operation of the two systems.
4. The two systems operate in conjunction with the practice of Ande cultivation (tenant farming); each co-owner gets his turn in cultivating paddy once in several years, and in the interim period he functions as an 'Ande Cultivator'.

5. Ande Cultivation (tenant farming) is usually arranged between close relatives which makes it difficult to operate the provisions of the Paddy Lands Act.
6. The operation of the two systems may be a constraint to productivity in the sense that the actual cultivator is reluctant to use inputs such as fertiliser, repair the bunds and clear the irrigation canal as he expects the others to do their share and is reluctant to invest when he does not have continuous use of the land.
7. Tensions and conflicts tend to increase with greater fragmentation of paddy land and the operation of the two systems tends to reduce tension and conflicts.
3. The operation of the Thattumaru and Kattimaru systems is confined to paddy land. In the case of highland several co-owners would share the produce among themselves with one co-owner enjoying residential rights.
1. The Thattumaru and Kattimaru systems in paddy cultivation can be considered as an unique social institution with distinct folkways, 'mores' and legal aspects. The Thattumaru system is much more widespread than the Kattimaru system in the North Central Province of Sri Lanka.
0. This study demonstrates the urgent need for more scientific studies and research in other regions of the country on the operation of the Thattumaru and Kattimaru system of paddy land rotation, in order to assess its effects on fragmentation and to provide data for any future consideration of land-to-the-tiller proposals.