

Kagama (New) Colony: Analysis of the Agricultural Geography of a Dry Zone Peasant Settlement Scheme

THE Kagama (new) colony is situated in the Anuradhapura district and lies between the Kala Oya and its tributary Kattiyawa *ela* (Fig. 1). It was established in 1944 and 746 allottees had obtained lands by 1959.¹ Each allottee possesses five acres of low-land (land provided with irrigation water) and three acres of high-land (land not provided with irrigation water). A total extent of 4,242 acres comprising 2,583 acres, low-land and 1,659 acres, high-land had been alienated.

The Physical Background

Kagama (new) colony is on a level plain varying in elevation between 300—400 feet (Fig. 1). The drainage of this area is to the Kala Oya and Kattiyawa *ela*. During the dry season, these streams have only a thin trickle of water.

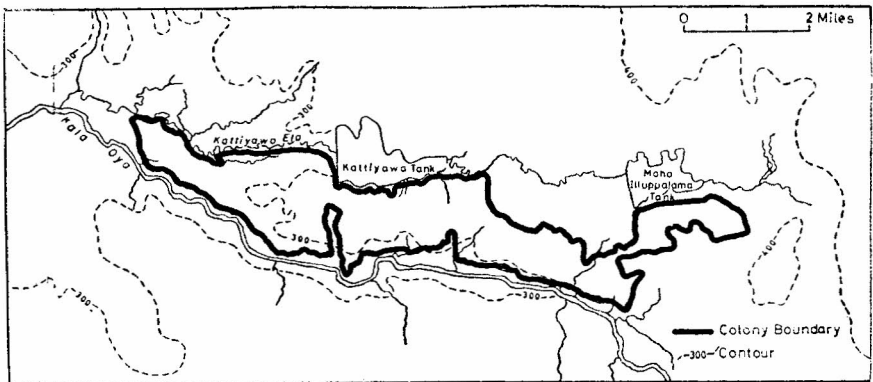


Figure 1 Kagama (new) Colony: relief and drainage

The meteorological station in this area, Maha Illuppalama, 450 feet above mean sea level does not record temperature. The closest temper-

1. *Administration Report of the Land Commissioner for 1959* (1960), Government Press, Colombo.

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ature recording station is Anuradhapura, at 300 feet above mean sea level and about 17 miles away and the temperature statistics for this station illustrate the temperature conditions in this area.

Mean Monthly Temperatures at Anurādhapura (°F)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
76.2	78.2	81.5	83.1	83.7	83.2	83.4	83.4	84.5	81.2	78.6	76.6

Source: *Report on the Colombo Observatory, 1957*

The mean annual temperature for Anuradhapura is 81.1°F. The mean monthly temperatures are high and show little variation from month to month except for the slightly lower temperatures during the northeast monsoon, from November to January.

The rainfall statistics for Maha Illuppalama illustrate the conditions in this area. The station records a moderately high mean annual total of 58.40 inches.

Mean Monthly Rainfall at Maha Illuppalama (inches)

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
5.53	1.93	4.62	7.23	4.15	1.38	1.40	1.62	3.01	9.47	9.98	8.08

The table shows that the Wet season extends from October to January. The 'little monsoon' (which occurs just before the southwest Monsoon) rains are from February to May with a peak in April. The dry season is confined to the three months June, July and August.

The original natural vegetation of this area would have been dry mixed evergreen forests.²

The Growth and Decay of Early Settlements

This area forms a part of the ancient province of Nuwarakalaviya, the settlement of which, begun earlier, was completed between the fourth and ninth centuries A.D. Kala *wewa*, one of the major irrigation projects in this province, was constructed during the reign of King Dhatusena (460—478

2. C. H. Holmes: The Climate and Vegetation of the Dry Zone of Ceylon, *Bulletin of the Ceylon Geographical Society*, Vol. 6, 1951, pp. 145—153.

A.D.). This tank was formed by a dam thrown across the valleys of the Dambulu *oya* and Mirisgoni *oya* which unite shortly before entering the tank. The Jaya *ganga* carrying water from the Kala *Wewa* to Anuradhapura is also attributed to King Dhatusena. It was about 40 feet wide and served as a combined irrigation and water supply channel.

The decline of this area was associated with the general decay and depopulation of the Dry Zone during the thirteenth century. Figure 2 showing settlements, tanks and irrigation channels in use and derelict and communications gives an impression of the state of this area, before the establishment of this settlement scheme.

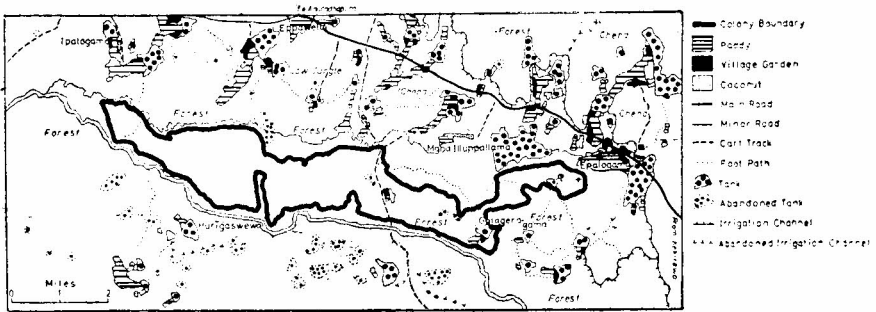


Figure 2 Kagama (new) Colony: area before colonisation

Present Settlement

Selection and Source Regions of Allottees

The allottees of this colony belong to the four categories: Immigrant, Local, Compensation and Labourers, differentiated according to the methods of selection of colonists in vogue.³ Their distribution in 1953 is shown below:

Immigrant	136
Local	229
Compensation	75
Labourers	76
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Total	516
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3. B. H. Farmer: *Pioneer Peasant Colonisation in Ceylon*, 1957, Oxford University Press, pages 204—207.

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Social and Economic Background of the Colonists

Some data on the background of the 86 colonists interviewed by the writer are shown in Table 1.

Occupation. 80 allottees had practised cultivation as a primary occupation, three allottees had practised it as a secondary occupation, while the remaining three had no agricultural background. Of the 83 agriculturists, 79 had cultivated paddy. The majority of these people had cultivated chenas and vegetables on a commercial scale, as a secondary pursuit.

Land Ownership and Tenure. Of the colonists interviewed, 39 had owned land previously, 26 had owned land jointly, while the remainder were landless. Of these, 25 allottees had owned paddy and garden land, while eight owned only paddy land and six only garden land. Many of the individually owned paddy holdings had varied in size from half to three acres, while many of the garden-land holdings were larger: one to five acres. The majority of the jointly-owned paddy holdings had been larger than the individually owned plots and had varied in extent from half to six acres. There had been little difference between the jointly-owned garden plots and the individually owned ones.

Agricultural traditions. Out of the 79 allottees who had cultivated paddy, 39 had cultivated during two seasons of the year: *Maha* and *Yala*, while 40 allottees had cultivated only during *Maha*. A *Yala* cultivation had not been possible for these allottees on account of shortages of water. Paddy cultivation had been based on the monsoon rains, simple village-irrigation systems and in the case of some local allottees, on water from the *Kala Wewa*.

The simple wooden plough drawn by a pair of bullocks was the most common implement in preliminary tillage, in paddy cultivation, while traditional or unselected varieties of seed paddy were used by everyone. Transplanting had been practised by 14 allottees, weeding by 28, organic manure had been used by 24 allottees and artificial fertiliser by 13.

Production and Income. The majority of the allottees had obtained medium to good yields of paddy varying from about ten bushels per bushel sown to about 35 bushels. It was not possible to obtain information regarding allottees' income prior to settlement. 12 allottees obtained

TABLE I: DATA ON 86 COLONISTS INTERVIEWED

Category	No.	Community	No.	Religion	No.	Caste	No.	Original Size of Family		Size of Family in 1960		
								No. of Members in Family	No. of Families	No. of Members in Family	No. of Families	
Immigrant	29	Kandyan Sinhalese	62	Buddhism	78	Goigama	52	1	10	3	1	
Local	47	Low—Country Sinhalese	16	Islam	7	Durawa	9	2	6	4	4	
Compensation Labourers	5	Muslims	7	Roman Catholicism	1	Radav	1	3	4	5	11	
	5	Tamil	1		Muslims	7			4	6	7	
									5			
									6	4	7	5
									7	7	8	14
									8	5	9	5
									9	6	10	7
							10	2	11	1		

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annual cash incomes varying from rupees 25—600 from the sale of paddy, 25 allottees received from the sale of subsidiary crops, incomes ranging from rupees 18—2000 per year, while 21 got incomes in the range of rupees 20—1000 annually, from non agricultural sources.

Land Use

Figure 3 shows the land classification of the colony. Since information on the soils of this area is not available, the influence of soils on land classification cannot be shown. The other factors that determined the classification of land into the two major categories: low land and high land, were local differences of relief and slope, to the extent that these factors affected the lay-out of the irrigation channel system. There was no reservation of forest for the use of the allottees. The areas allocated for pasture were inadequate and of little use, since an organisation among the allottees to maintain them was non-existent.

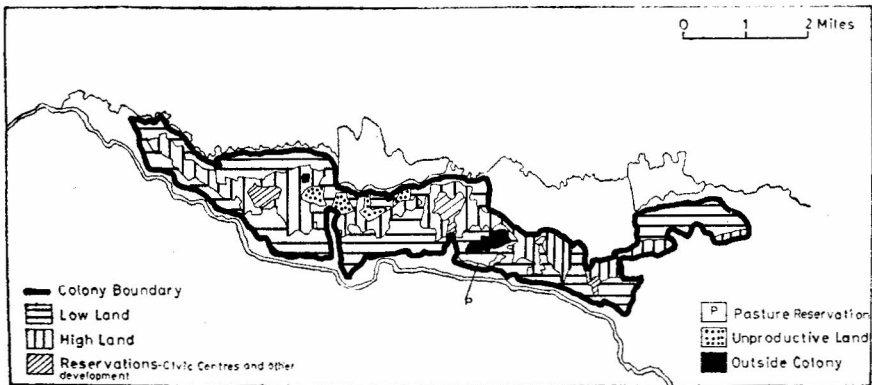


Figure 3. Kagama (new) Colony: land classification

Agriculture

Cultivation practised on the low-land and high-land allotments differed.

Low-land Cultivation.

The Kala *wewa* and the yoda-ela were restored in 1887. The Kagama channel which takes off water from the yoda-ela has been extended to provide water to this area, (Fig. 4) Kala *wewa* suffers from deficient supplies

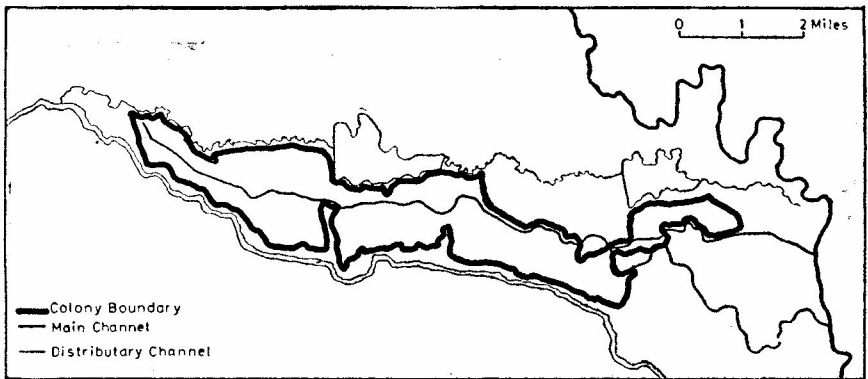


Figure 4. Kagama (new) Colony; irrigation.

of water, since the restoration of the Dewahuwa and Kandalama tanks, on the upper reaches of the *Hawanella oya* and the *Mirisgoni oya* which feed the *Kala wewa*. Hence up to the time of this inquiry, irrigation water had been provided to the colony regularly, only for one cultivation a year, during *Maha*. It was only during a few years that water had been issued for a *Yala* cultivation and the allottees had found the amounts insufficient for the crop.

The most important crop grown on the low-land allotments was irrigated paddy. *Maha* cultivation was possible throughout the area, though not assured, but *Yala* has so far been a very uncertain crop due to shortages of irrigation water. The allottees did not grow rotational crops on low-land allotments during *Yala*. Tobacco was considered by the allottees to be a more risky crop than paddy and also it needed more attention. Vegetables brought in less profits than paddy. The land was left fallow, when paddy was not cultivated.

High Land Cultivation

Most allottees cultivated the same crops as in Parakrama Samudra.⁴ Coconut was of greater importance than before. Out of the 86 allottees, all but two were growing coconut. Some allottees had planted coconut on the full extent of their land. There were four allotments with over 250 trees in each. The extents devoted to vegetables and dry grains varied with that of coconut, more coconuts there were in the land, there was less

4. H. N. C. Fonseka: Parakrama Samudra Colony, An Example of Peasant Colonisation in the Dry Zone of Ceylon, *The Journal of Tropical Geography*, Volume Twenty Two, June 1966, pages 10—22.

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of vegetables and dry grains. The allottees said it was difficult to grow vegetables and dry grains under the shade of the coconut palms. The success of coconut in this area may be due to the favourable ground water conditions on account of the proximity of the Maha Illuppalama tank and the Kattiyawa *wewa*. A few allottees were cultivating cigar tobacco on small extents of land during *Maha*.

Techniques of Paddy Cultivation

The extent to which the improved techniques of paddy cultivation were practised by these allottees is shown below:

<i>Technique</i>	<i>Number of allottees</i>
Light iron plough	25
Tractors	14
Pure-line seed paddy	11
Transplanting	8
Organic manure	13
Artificial fertiliser	4
Weeding	31

The simple wooden plough drawn by a pair of buffaloes was more used than the light iron plough. Some allottees said they had to give up the use of the iron plough when they found that their animals were not strong enough to draw it. Others did not use the iron plough because they did not have the money to buy one. The majority of the allottees were dissatisfied with the quality of the pure-line seed distributed by the Government. On one occasion, seed said to be a four—month variety, had in fact been a seven—month variety and thereby the crop had failed. Most allottees preferred to use the traditional varieties of seed paddy.

Practice of transplanting was confined to *Maha* and to small extents of the allotments. The extents cultivated by some allottees were as small as one or two *liaddas*. While high labour costs limited the extent of transplanting, the chief problem was the shortage of water. The allottees who weeded their fields said they found it difficult to cope with the heavy weed growth due to deficient water supplies in the area. Some who did not weed said they were not used to this practice, while others could not find

the money to hire people for this work, when family labour and *attan* were insufficient. The limited use of organic manure was due chiefly to the shortage of animals within the colony. Many people here were in favour of the use of artificial fertiliser, but they lacked the funds to purchase it.

Only a few people in this colony used tractors. Many allottees were in favour of the use of tractors because of the shortage of animals in this area. A recent epidemic had destroyed much of the animals in the Anuradhapura district. However, these allottees did not have the ready cash to make advanced payments to obtain tractors on hire. The use of tractors in this colony was mostly for ploughing. Threshing was largely done with animals.

Agricultural Production

Statistics of yields of paddy reaped in the low-land for *Maha* 1959 and for the last *Yala* crop indicate that the majority of the allottees secured yields in the following yield groups: 16—20, 21—25, 26—30 and 31—35. Thus their yields were poor to medium. This reflects the limited practice of the improved techniques of paddy cultivation. The allottees attributed the low yields of their allotments chiefly to two factors: 1. the major flood during December 1957, the bund of Kala wewa was breached and the flood waters washed out completely the fertile top soil, and 2. the shortage of irrigation water resulted in heavy growth of the weeds, *Kuda metta* and *Diyasiyambala*, which were very difficult to eradicate.

Income

The principal source of the allottees' income was the sale of paddy. Most of the allottees secured incomes within the two groups rupees 501—1000 and 1001—1500 for both *Maha* and *Yala*. When the cost of paddy production⁵ is taken into account it is seen that some allottees would not have been able, even to cover up the expenditure incurred, while most of the rest obtained only meagre to poor incomes.

Some allottees obtained an income varying from about rupees 50 to 300 from the sale of subsidiary crops, the most important of which was coconut. While a few allottees obtained substantial incomes from trading, many were employed as casual labourers during the off seasons of paddy

5. In 1959—60 the average expenditure for a five acre paddy allotment was in the range of Rs. 500.

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cultivation at the Agricultural Research Station, Maha Illuppalama. Allottees' income from non-agricultural sources for 1959 was in the range of rupees 300—1000.

During times when cultivation of paddy was not possible due to insufficient water, the Government provided relief works in the area as, for example, the construction of roads and the people obtained small incomes from such work.

Transport and Communications

Three minor roads connect this area to the Anuradhapura—Kekirawa road (Fig. 5). There are regular bus services on this road between Anuradhapura and Kekirawa. From Kekirawa, there are frequent bus services to Kurunegala and Matale via Dambulla. The closest railway connection to the colony is Kekirawa about ten miles away, on the Batticaloa and Trincomalee lines. The railway is single tracked and there are two passenger trains a day in each direction between Colombo Fort and Batticaloa and Colombo Fort and Trincomalee.

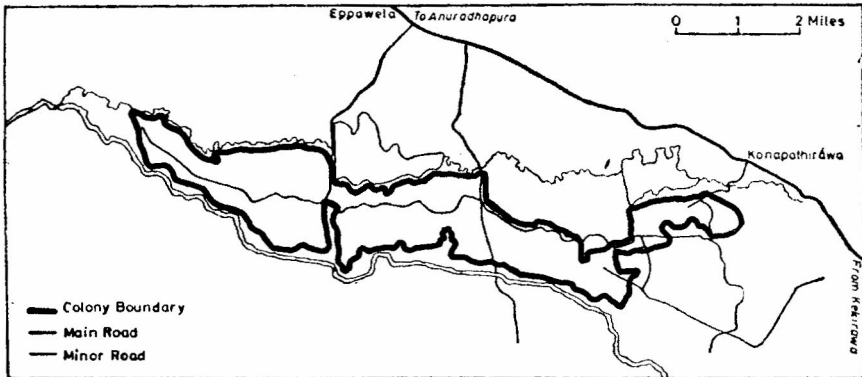


Figure 5 Kagama (new) Colony: communications

Internally the colony is served by minor roads. These roads are maintained by the Irrigation Department and they do not have a metalled surface. Private lorry traffic is permitted only on some roads and on parts of their distance, but motor cars are allowed throughout. Most high-land allotments are connected with the minor roads by cart tracks, on which motor cars could operate during dry weather, but during the rainy season

they are so muddy and rutty as to be almost impassable. There are no regular facilities for passenger transport in this area. There were a few motor cars belonging to allottees and others and these were given out on hire. Allottees made use of this facility in emergency. Most men possessed bicycles. The women folk and children had to walk to get about. Half bullock carts were used to transport the paddy to the buying depots while these carts and small vans transported other goods to the boutiques and shops within the colony, from outside.

Marketing

The chief avenues for the sale of the allottees' paddy were: the multi-purpose co-operative societies under the Guaranteed Price Scheme, private traders in the bazaars at Eppawala and Konapathirawa and traders within the colony. Drawbacks in the operation of the Guaranteed Price Scheme forced people to sell their paddy to the other sources at rates much less than the guaranteed price of Rs. 12/- per bushel, as happened in the Parakrama Samudra Colony.⁶

These allottees faced the same problems of marketing the surplus vegetables, fruits and dry grains as the Parakrama Samudra allottees.⁷ Only those colonists, who were close by to Eppawala and Konapathirawa benefited from the better facilities for marketing provided by the bazaars at these two places. Copra sheds in the neighbourhood of this area bought the surplus of coconuts.

Credit and Indebtedness

79 allottees were indebted, seven were free from debt. 56 allottees were indebted to the co-operatives. The debts of the majority of these allottees fall into the groups Rs. 100—200, 201—300, 301—400 and 401—500. The debts would have been greater but for the fact that during times when there was no cultivation due to water shortages, the co-operatives did not lend.

51 allottees were indebted to traders on account of the purchase of provisions on credit. The debts of the majority of these people fall into the four groups Rs. 100—200, 201—300, 301—400 and 401—500. The

6. Fonseka, op. cit. pages 18—19.

7. Ibid.

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allottees of this area said, traders were usually unwilling to give them credit, because of their distressed condition, due to the cultivation of only one paddy crop a year and the undependability of the success of even this crop. But for one benevolent *mudalalie* in Eppawala, their very existence would not have been possible. Most of the above mentioned debts were owed to this *mudalalie*. Five allottees were indebted for borrowing cash. Their debts were in the range of Rs. 50—400. It was virtually impossible for the allottees to borrow cash, as they had no security to offer. The uncertainty of their paddy crop deterred many a creditor from accepting it on mortgage.

Conclusion

The most serious problem that these people have experienced was the shortage of water for paddy cultivation due to the deficient supplies in Kala *wewa*. The resulting uncertainty of the paddy crop brought them only very low incomes. The large families depressed their living standards considerably. Some allottees said that their present condition was even worse than that in their original villages.

The construction of the Nalanda *oya* reservoir scheme which was in progress, at the time of this survey, will provide an adequate supply of water to Kagama. Thereby it is hoped that the economic condition of these people will improve.

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