

The Progress of Dry Farming Schemes in Ceylon

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THE FOLLOWING dry farming settlement schemes have so far been established :—

1. Kurundankulama, 4 miles east of Anuradhapura on the Mihintale Road in 1938 with 10 families, subsequently extended to settle another 40 families.
2. Makalanagama, 2½ miles from Galgamuwa in N. W. P. on the Ehetuwewa Road in 1943-44 with 22 families.
3. Relapanawa, 13 miles west of Anuradhapura on the road to Puttalam in 1950 with 40 families.
4. Olukaranda, 25 miles from Anuradhapura (3 miles from Kekirawa) on the Anuradhapura-Matale Road in 1950 with 7 families.

Kurundankulam

This Dry Farming scheme was started by the Department of Agriculture in 1938 on an unirrigable block of 100 acres at Kurundankulama, 4 miles east of Anuradhapura on the Trincomalee Road with the object of :

1. ascertaining whether the Wannī villager could be trained to take to dry land arable farming.
2. to ascertain the extent of unirrigable land an average peasant family could farm efficiently using simple bullock drawn implements and the income that could be obtained therefrom.

3. whether the fertility of soil could be maintained under the prevailing conditions of rainfall.

Attempts to secure ten typical Wannī families to form the settlement proved futile owing to the reluctance of the conservative Wannī villager to leave his home. Only one Wannī family was included in a settlement of 10 families in January 1939. Some of the selected families either abandoned their allotments or were weeded out. Today only one of the originally selected ten families remains. The ten families in occupation at present have been working for various periods from 3 years to 17 years.

A block of 100 acres was divided into 10 equal blocks, each having a road frontage; the first acre by the road frontage being used as the homestead. Development of the allotments was done in stages beginning in January 1938. It was intended to clear and stump progressively each year an extent that each family could develop. A subsistence allowance of Rs. 15 per month was paid until the whole allotment was rendered arable. Very soon the Department realized that it was beyond the economic capacity of the settlers, to develop the holdings expeditiously. The Department thereupon rendered the holdings arable at State expense, the settlers themselves receiving wages for the work done.

By September 1943 the development of the 10 holdings was completed. Each

holding was 10 acres in extent, of which one acre was used for the homestead. A wattle and daub house was provided. The homestead was planted with 30 citrus plants, 8 mango grafts, 12 coconut plants and a few miscellaneous plants such as jak, breadfruit, pomegranate, &c., and a small area inter-cropped with plantains, was set apart for vegetables. Wells were provided. A cattle shed and a poultry run were also constructed in the homestead.

The remaining allotment of 9 acres was cropped according to the following rotation :—

Block A—6 acres—

1st year—*Maha*—Chillies

Yala—Pulses

2nd year—*Maha*—Cereals

Yala—Gingelly

3rd year—*Maha*—Cotton

Yala—Cotton continued

Block B—2 acres—

1 acre Bananas for 5 years

1 acre Napier grass for 5 years (these two crops to be rotated).

Block C—1 acre—

Permanent Paddock.

Each settler was given a pair of draught bulls, one cow, a pen of poultry and essential bullock-drawn implements and tools. They worked their allotments individually. An Agricultural Instructor stationed at the spot advised them.

In 1948 the settlement was extended by the addition of 84 acres to be worked by 6 families co-operatively. The entire extent was cleared and rendered arable

and permanent cottages were constructed at State expense. Each settler was allotted 14 acres made up as follows :—

2 acres for the homestead to be worked individually.

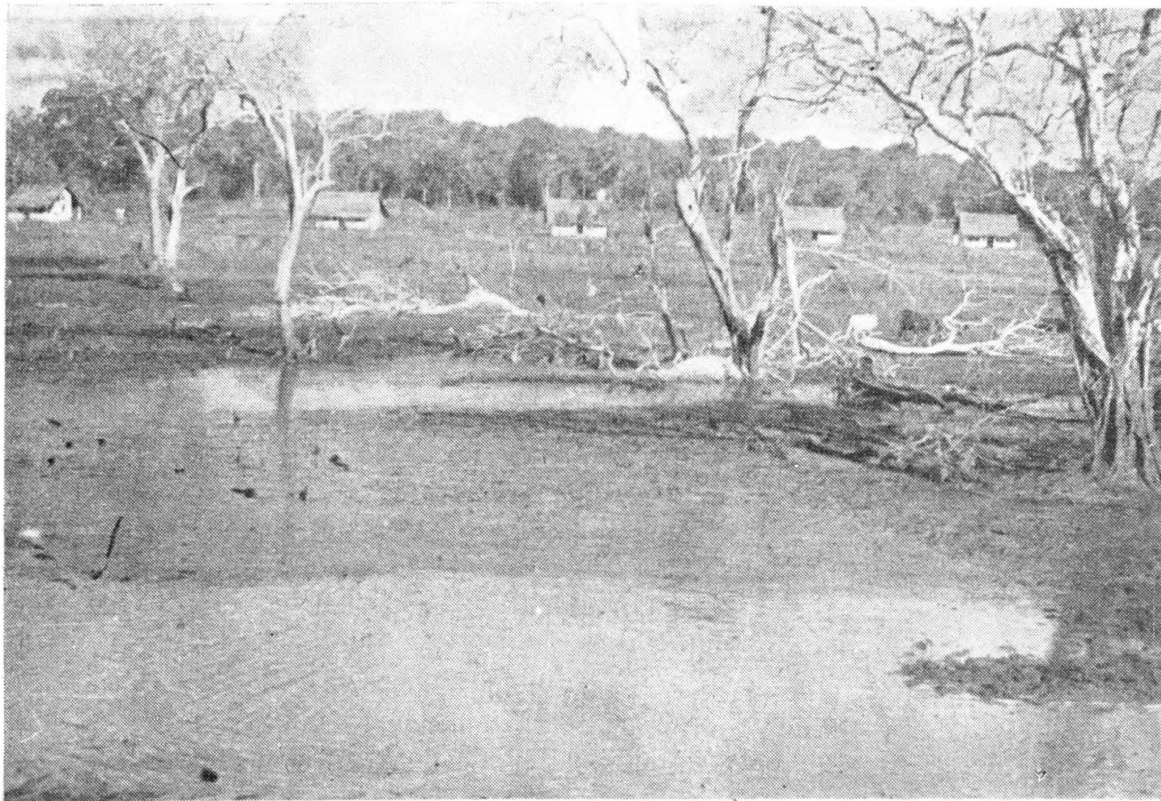
6 acres for arable farming to be worked co-operatively for 4 years.

6 acres to be utilised for stocking for 4 years and thereafter to be ploughed for arable crops.

The 84-acre block was divided into three, the middle block being used for the homesteads and the other two for cropping and stocking. Settlers farmed 36 acres co-operatively and utilized 36 acres for stocking their animals. By 1949 three settlers were removed for bad behaviour. They were replaced by a better type of peasant.

The topography of the land the 10 settlers farmed was fairly typical of the dry zone of the North-Central Province, being slightly undulating with valleys in between. Soil conservation had not been planned on the catchment basis; instead individual blocks had been soil conserved. This resulted in the low-lying area which formed about 20 per cent. of the total being waterlogged. The settlers who were obliged to cultivate the low-lying, ill-drained blocks were decidedly at a disadvantage. The chief troubles were the unequal distribution of suitable land for farming and ineffective soil conservation measures.

In 1949-50 the entire settlement was re-soilconserved on the catchment basis with broad-based, graded bunds. All the run-off from the catchment was diverted into an abandoned tank and a pond within the settlement. The low-lying areas were *asweddumized* for rain-fed paddy.



Farm tank with colonists' cottages in the background



Settlers' cattle quench their thirst at the farm tank

A group of 10 new cottages constructed on a hillock, with two acres as homestead per settler replaced the old wattle and daub cottages that were constructed in 1938. A new road was constructed to serve the new group of houses and the two groups of settlers. A well 38 feet deep and 30 feet in diameter was provided for 10 settlers,

More equitable distribution of land was secured in 1950 by converting the settlement into a co-operative farming unit. Units of allotments and systems of cropping were changed. Settlers were given a two-acre homestead each and farmed 120 acres co-operatively. The 10 settlers cultivated 60 acres in arable crops co-operatively, and used 60 acres for stocking cattle. Cropping along the contour in terraces or bays was introduced and the following rotation adopted :—

1st year—*Maha*—Cereals Sorghum, Kurukkan,
Maize

Yala—Sorghum ratooned

2nd year—*Maha*—Chillies

Yala—Chillies

3rd year—*Maha*—Cotton

Yala—Cotton continued

4th year—*Maha*—Pulse mixture with Dhal spaced
widely for shade

Yala—Gingelly

Low-lying areas were cultivated with paddy as a rain-fed crop. To enhance their income the settlers are allowed to cultivate vegetables during the *yala* season with lift irrigation.

Thus two groups of settlers commenced farming co-operatively—one group of 6 farmers and the other group of 10 farmers. Each group selected its own leader or *Gamarala*. The selection of a leader is done annually before the

commencement of the cultivation season. The members of each group are guided by their leader in all the co-operative farming operations. The leader in turn acts under the guidance of the Agricultural Instructor in charge of the settlement. Before commencement of the cultivation season in October 1950, the settlers moved into their new cottages. Lots were drawn for the cottages. The ten settlers that embarked on a new venture of co-operative farming, after about 10 years of working their allotments individually, happened to be a heterogenous crowd and they found it difficult to pull together. At the end of the season, of their own accord they requested that the group be split up into two units of five each. Their request was granted and the land blocked out accordingly. The total produce harvested by the co-operative unit is divided between the settlers according to the number of labour units contributed by each family. The *Gamarala* keeps a record of the labour units contributed by each family.

Extension of Dry Farming Schemes— Kurundankulama and Relapanawa

In 1950 the Minister decided to open two dry farming schemes to settle 40 families on each. Two sites were selected in consultation with the Revenue Officers. One site was at Kurundankulama, the extension covering an area adjoining the established dry farming scheme.

The second site selected was close to Relapanawa Village, 13 miles from Anuradhapura on the Anuradhapura-Puttalam Road.

Development of the Land. The clearing of jungle, stumping, rooting, levelling ant-hills, construction of roads and restoration of abandoned tanks at

Kurundankulama were done by the Land Development Department using D8 tractors with bulldozers and rooters, while at Relapanawa these operations were done by the Agricultural Labour Corps with machinery and with labour. The Agricultural Officer being in charge of the two schemes, all these operations were done under his supervision. All the colonists' cottages, latrines, wells and the general buildings such as the school, school master's quarters, manager's and conductor's quarters, meeting hall, co-operative stores and dispensary were constructed by the Land Development Department.

The entire planning and lay-out of the whole scheme, siting and demarcating wind belts, siting of tanks, ponds and groups of cottages and general buildings, tracing of the network of roads, soil conservation of the catchment basis, fencing, &c., at both the schemes, were done by the Agricultural Department.

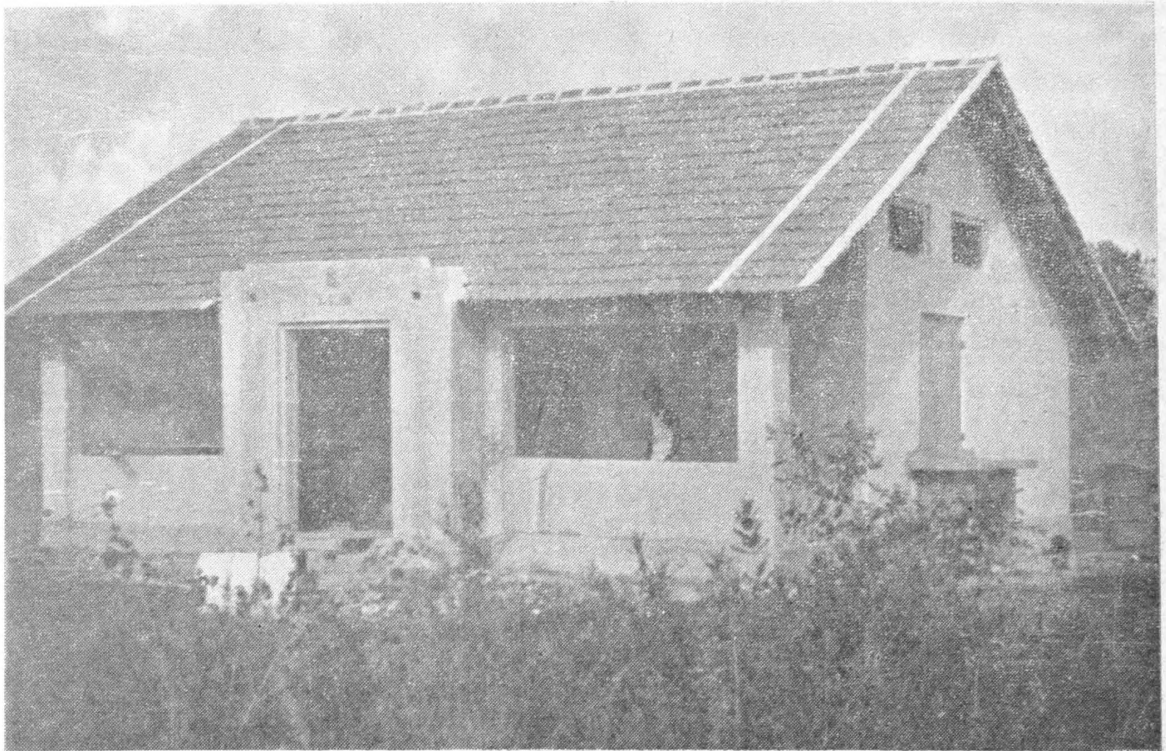
Lay-out. Belts of forest, 300-500 feet wide, spaced every 2,000-2,500 feet apart were left along the ridges to serve as wind breaks and as fuel reserves. The space between any two wind belts depends on the topography of the land. The undergrowth of these wind belts was cleared leaving intact all valuable timber trees and other trees with good spreading crowns. Uneconomic and useless trees such as *veera* can be exploited for firewood and the gaps planted up with useful trees such as *halmilla*, teak, mango and cashew. 83,000 *halmilla* seedlings have been planted in the wind belts and along the fences at Kurundankulama and 14,000 at Relapanawa. Of this about 10 per cent. have survived at Kurundankulama and about 5 per cent. at Relapanawa.

Breached tank bunds in varying stages of disrepair were found in almost every catchment at both centres, seven at Kurundankulama and six at Relapanawa after the land was cleared and the jungle burnt. All the farm tanks, thirteen in number, were restored by filling the breaches, widening and raising the bunds, by heaping the soil excavated from the beds in the process of deepening. This was done with heavy earth-moving machinery.

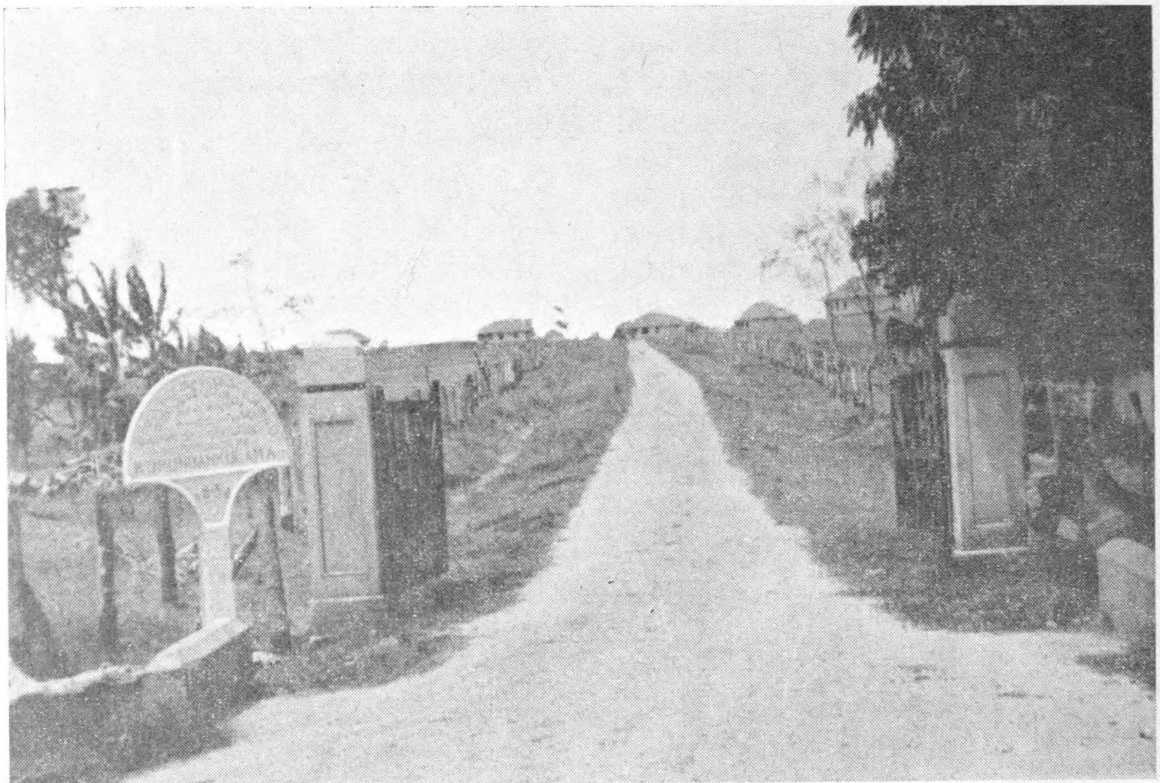
The cleared area was soil-conserved on the catchment basis with broad-based, graded bunds. Fields in the valleys that get water-logged during heavy rains were *asweddumized*. The storm water drains leading from the ridges were diverted to the tanks. All the run-off water from each catchment was harnessed and stored in these tanks. Apart from the beneficial effects of the gradual raising of the water table, the stored water would be very useful for domestic and stock purposes, and for cultivation of vegetables, &c., during the *meda* and *yala* seasons.

The 80 homesteads of 2 acres each—40 each at Kurundankulama and Relapanawa, have been grouped in units ranging from 4 to 9 houses; each unit, being provided with a common well 15 feet in diameter and 30 feet deep. All the homestead units have been located on the upper reaches of the farm tanks.

Barbed wire fences have been erected round the perimeter of the homesteads units and round the blocks to be cultivated co-operatively by the colonists. The blocks to be cultivated co-operatively are divided into two sections, one section for the cultivation of crops and the other to be rested and stocked. The blocks carrying crops of paddy are also perimeter fenced. Kapok, *halmilla*,



Co-operative Stores—Kurundankulama



Entrance to the Kurundankulama Scheme

mango and shade trees have been planted along the fences to serve as replacements for fence posts.

Buildings. Each allottee is provided with a type plan cottage and a temporary cattle shed. One temporary shed is also provided for each unit to serve as a store for carts and implements and also for the produce of the co-operative blocks as these are harvested.

A separate block of about 10 acres

has been reserved at each centre for a school for children, quarters for the school master, co-operative stores, dispensary, meeting hall and play ground. Co-operative stores function at both centres.

Quarters are also provided at each centre for an Agricultural Instructor and a Conductor.

The lay-out of each scheme is shown in Table I.

Table I

Lay-out	Kurundankulama (extension)		Relapanawa	
	Acres		Acres	
Gross acreage opened up	1,068	..	677
Number of farm tanks restored	6	..	6
Allowance for tanks at full supply level	34	..	40
Wind belts	225	..	60
Reads and drains	12	..	5
General buildings and quarters for officers	12	..	12
Acreage actually cultivated	448	..	320
Acreage rested for pasture	336	..	240
Total	1,068	..	677

Selection of Allottees. It was decided to give preference and priority in the selection of allottees to landless married men who had undergone a training at the various practical Farm Schools maintained by the Department of Agriculture. A Special Land Kachcheri notice was drawn up for the Dry Farming schemes by the Land Commissioner in consultation with the Agricultural Officer, Dry Farming.

Land Kachcheries were held at Colombo, Galle, Matara, Kegalla, Kurunegala and Anuradhapura. The response was very disappointing as most of the married candidates that were eligible

for application were already employed as Food Production Overseers, Demonstrators and Administrative Secretaries of C. A. P. & S. Societies. With a view to give those still unemployed a further chance, the marriage qualification was not enforced and fresh land kachcheries were held when 39 passed-out students were selected from various parts of the Island. 23 allottees for the remaining 41 allotments were selected from landless peasants, priority being given to those residing in the North-Central Province.

Some of the cottages were not ready for occupation until the end of November 1951.

At the end of December 1951, sixty-two allottees had been selected and were

residing in the allotments as detailed below :—

<i>District</i>	<i>Allottee</i>	<i>Kurundankulama</i>	<i>Relapanawa</i>	<i>Total</i>
Kegalla	Students	16	9	25
Kurunegala	Students	4	1	5
Kandy	Students	1	—	1
Kalutara	Students	2	—	2
Colombo	Students	1	1	2
Matara	Students	4	—	4
N. C. P.	Peasants	—	23	23
		28	34	62
Vacancies to be filled by peasants		12	6	18
		40	40	80

Out of the 39 students selected, 32 were bachelors and 7 were married. The bachelors arrived with a helper or two as instructed, but in most cases the helpers left them after a short time. The work as such was by no means an easy task with the result that settlers were forced to attend to the homesteads and neglected the Co-operative Units.

Strenuous efforts were made by the visiting and resident officers at persuading these student allottees to settle down to work. Their helpers would perhaps have not left them had these care-free bachelors refrained from adopting a

superintending attitude. When the helpers left, these allottees expected the crop of certain units sown for their use, as they were late to take up residence, to be also gathered and delivered to them at Government expense. Even the valuable grafts and other plants supplied free by the Department for planting in their homesteads were neglected. Twenty two student allottees unfitted for this type of work left the allotment before they were expelled, and all the vacancies were filled by landless peasants. The set-up at the end of 1954 was as follows :—

		<i>Kurundankulama</i>	<i>Relapanawa</i>
Student Allottees—			
Married	.. ..	1	—
Bachelors	.. ..	2	2
Landless Peasants—			
N. C. P.	.. ..	10	14
N. W. P.	.. ..	6	4
C. P.	.. ..	21	9
Uva	.. ..	1	—
Sab.	.. ..	12	6
Western	.. ..	2	5
South	.. ..	1	—
Total	.. ..	56	40

Scheme of Work. All the Dry Farming schemes are worked on the principle of co-operative tenant farming. In this type of farming the members do not own the land, but it is owned by society. At present the land is owned by the State, but when the societies are well established the proposal is for the societies to own the land. The land is divided into different blocks and each block is farmed co-operatively according to the planned programme by a number of families ranging from 4 to 6 in a unit.

Each settler is given 14 acres of land, of which 2 acres are for his homestead to be worked by him and his family individually. The remaining 12 acres form part of the undivided portion of the land held in common by the unit or group to be farmed co-operatively by all the members of that unit. Out of the land held in common by the unit for co-operatively farming half the extent would be farmed by all the members of that unit, and the remaining half would be rested as grazing ground for all the cattle belonging to the members of the unit. For example, if a unit is composed of 6 families, the total extent of land allotted to them would be 84 acres. Of this, 12 acres would be utilized for the homesteads at the rate of two acres per family. The remaining 72 acres would be farmed co-operatively by the six families, 36 acres being cropped for four years and the remaining 36 acres being rested as grazing for their cattle. After four years there would be a change over, the ploughed or cropped area would be rested and the rested area cropped.

The allottee's cottage, cattle shed, poultry house, compost pits, &c., are situated on the homestead. The block is utilized as follows:— $\frac{1}{2}$ acre under Java kapok, $\frac{1}{4}$ acre under banana and $\frac{1}{4}$ acre

under vegetables; bananas and vegetables to be rotated once in four years. The remaining area is planted with fruit trees and inter-cropped until the fruit trees bear. The boundaries of each homestead are separated by live fences of Murunga and Katurumurunga plants.

Each allottee works his homestead on an individual basis and is personally entitled to the product of his labour. He can dispose of his produce according to his own wishes if he so desires. This system has the advantage of combining the co-operative and individualistic elements.

Each unit elects its own leader or *gamarala* once a year before the commencement of the *maha* season. The leader guides the members of his unit, maintains check lists of labour and records of produce harvested, and settles as far as possible petty quarrels and disputes among the members of his unit. He represents his unit as a member of the working committee of the society. He is advised and guided by the resident Agricultural Instructor who is the manager of the scheme. He is paid a bonus of 1 per cent. from the gross income of each member of the particular unit for services rendered.

Two co-operative societies were formed, one at each centre in 1952. These were not registered until all the allotments were occupied and the population became static after the departure and expulsion of those who were ill-fitted to the task. In September 1952 the two societies were registered as (1) Kurundankulama Dry Farming and Sales Society Limited, and (2) Relapanawa Dry Farming and Sales Society, Limited.

The resident Agricultural Instructor who is the manager of the scheme functions as President and Treasurer of the

Co-operative and Sales Society at each centre. Each co-operative Society maintains a provision store for the benefit of its members who are given credit facilities up to a fixed limit. This has prevented them from falling into the clutches of local traders.

Every allottee is a member of the Co-operative Society. Every member has to cultivate the allotments in accordance with the planned programme and rotation laid down by the dry farming authorities. They have to conform strictly to all the regulations laid down by the Land Commissioner in allotting land to them. Any livestock issued by Government to the Society is in turn loaned by the Society to its members. No member is allowed to maintain more than 6 head of cattle and goats and a flock of poultry. All progeny raised from such foundation stock will be the property of the member who raised such progeny. All the produce from the co-operative units and preferably from the individual homestead allotments as well are to be disposed of through the Society.

It is the duty of every group of members of a unit to maintain in proper order and in good condition all roads, drains, avenues, fences, pasture blocks, wind belts, farm tanks and ponds. Whenever the members have failed to attend to these, the Society will, after due warning, execute this work by engaging outside labour. Such expenditure will be deducted from the particular group.

If through the negligence of the members any damage is caused by fire or cattle to crops or property such members will be liable to pay as decided upon by the committee the cost of the damage to the particular unit or the individual member concerned.

The Society maintains and controls all issues made by Government such as draught bulls, cows and other livestock, carts, seed drills, interculturators, ploughs, disc harrows, &c. These are in turn loaned or issued by the Society to each unit or member for specified periods of work, in some cases on hire, as may be decided by the working committee.

Each member has to maintain in good order his cottage and his cattle shed. Where a member fails to do this, the necessary repairs will be effected by the Society and the cost charged to his individual account. All the general buildings will eventually be maintained in good condition by the Society.

No member is expected to be away from his allotment at any one time without informing the leader. Before leaving his homestead he has to make adequate arrangements with the leader for the proper care and maintenance of his livestock and house. The leader in turn informs the President. The leader cannot absent himself without informing the President.

The standard of cultivation will be done to the satisfaction of the dry farming authorities. Any allottee or group of allottees that fail to maintain a good standard of cultivation or are found to be indifferent farmers or violates or attempts to violate any of the conditions of the permit or any instructions given by the dry farming authorities will have the permit cancelled and the allottees will be compelled to quit their allotments and leave the settlement altogether. No such allottee will have right to claim any compensation from the state on any grounds whatsoever.

Every member has to pay a land tax at the rate of Rs. 10 per acre per annum for every acre under cultivation:

The work of the farm is normally performed by the members of the society, while assistance is only resorted to when it is necessary to call in hired labour to supplement the full labour strength of the Society during rush work.

The President maintains a check roll showing the labour turn out of every member. At the end of the season a complete statement showing the labour days earned by each member is posted for two weeks at the President's Office before the day of the general meeting at which the distribution of the income of the farm is to be decided.

The division of the income is done strictly *pro rata* according to the labour units earned. In deciding labour units a man is reckoned as 1 unit, a woman $\frac{3}{4}$ unit, a boy or girl between 16 and 18 years as $\frac{3}{4}$ unit and a child between 14 and 16 years as $\frac{1}{2}$ unit. All the harvested produce from each co-operative unit is handed over to the Society stores. These are valued and the price to be paid per labour unit is arrived at. Each member is then paid after making the following deductions:—

1. Land tax.
2. Payment of any cash loans, seed loans, work hired out by implements and machinery and for any other work done by the society on behalf of the member; food-stuffs supplied on credit by the co-operative stores.
3. Payment of 1 per cent. of the gross income as bonus to the leader of the Unit for services rendered.
4. A deduction of 2 per cent. of the gross income for a reserve fund; the cash being deposited in the Co-operative Bank and used as

an assurance against crop failures, &c. This reserve fund is indivisible.

Observations

1. The variability of the rainfall and its distribution during the growing season of the crops over the last five years has been very striking. The 1951-52 *maha* season was a good one for dry farmers, but the unmarried farm school students proved ill-fitted for this type of strenuous work with the result that 22 out of 39 left the scheme. Their vacancies were filled with landless peasants. The *maha* season of 1952-53 proved to be disappointing; only 16.68 inches of rain were recorded. The rainfall was inadequate both for rainfed crops and highland crops. Frustrated over the low incomes obtained during the year a number of new settlers including 10 farm school students left the scheme. In the *maha* of 1953-54 there was a more equitable distribution of rain which was quite favourable for highland crops but woefully insufficient for rainfed paddy. The unprecedented heavy downpours in March damaged the crops and interrupted harvesting and processing operations. The fourth season, 1954-55, was very favourable for rainfed paddy, which forms about 20 per cent. of the total cultivable extent in dry farming schemes, but was far too wet for highland crops and vegetables.

2. Newly recruited settlers had to be trained in farming from the very inception. Ploughing with the ceres plough and inter-row cultivation with bullock drawn implements were new to them. It takes a couple of years for them to understand the importance and usefulness of improved methods of cultivation.

3. In the absence of bullock operated automatic seed drills, the only other alternative for the settlers has been to broadcast the seeds of the different crops. Weed control in broadcasted crops presents the greatest problem. The use of weedicides for crops other than cereals cannot be considered. There is not the slightest doubt that good yields from rainfed paddy and from other highland crops can be obtained if the seed can be drilled in rows and inter-cultivated.

4. One of the greatest difficulties and obstacles experienced by settlers of all the schemes for raising successful crops is the severe damage caused by roaming herds of stray cattle and occasionally by wild animals. There are instances of carefully tended nurseries or well developed crops being completely destroyed overnight. It is no exaggeration to state that about 30 per cent. of the crops cultivated in the North-Central Province are destroyed by stray cattle. The cattle trespass ordinance appears to be out-dated and needs thorough revision. It is practically impossible for the occupier of a cultivated land to seize herds of stray cattle, though in theory it sounds feasible. Villagers maintain herds of cattle irrespective of the carrying capacity of the land they own. The existing system encourages promiscuous breeding of unthrifty and useless cattle and encourages cattle lifting. Strict measures have to be adopted to overcome this nuisance. It is most undesirable to allow stray cattle to interfere

with crop production. In no other progressive country is this allowed. We are yet primitive in this respect.

The settlers of all the schemes have dropped cotton from the rotation as this crop has proved to be unremunerative. The most popular crops are rainfed paddy, millets, chillies, bombay cow-pea, groundnuts and gingelly. Traditional *chena* crops like kurakkan, kollu, black gram and green gram are not much in demand. Turdhal, lima beans, soya beans can be successfully cultivated but a demand for these has to be created. In the case of Turdhal a simple machine for processing and preparation of the dhal for market has yet to be evolved.

Considerable experience has been gained in co-operative dry farming during the last few years. The joint co-operative farming system has been very successful in units where the members were recruited from one village or where the members were from a homogenous group. In the case of some of the groups where the members were recruited from different districts their joint efforts were not up to expectations. In such cases, when persuasive measures did not have the desired effect, the rules and regulations of the society were strictly enforced, often necessitating the expulsion of the slackers. The selection of settlers for the vacant allotments has now been entrusted to the working committee of the Society.

One important problem that had to be solved was to provide some sort of occupation or employment for the settlers during the *yala* season after the sowing of their gingelly crop. In the absence of any productive work in the settlement

they have had to seek work elsewhere. This problem has now been solved with the magnificent gift of sprinkler irrigation outfits by the Canadian Government under the Colombo Plan.

Although animal husbandry has been woven into a plan of arable farming, a sufficiently attractive and steady income has not been realised from the sale of milk, owing to the small number of cows maintained and due to the absence of well managed pastures. The present production of milk is about 5,300 gallons at Kurundankulāma and 3,200 gallons at Relapanawa per annum. Attempts to persuade the settlers to plant pasture grass have not met with success, not due to their indifference, but to their inability to do this as they are invariably fully occupied with the cultivation of their crops during the rainy season. With a view to ensure the settlers of a more steady income it is proposed to pay more emphasis in future to the development of animal husbandry, particularly the production of milk.

Olukaranda

This dry farming scheme is situated three miles from Kekirawa, near the 61st mile on the Kekirawa-Anuradhapura Road. The land selected was an abandoned village named Rattagala Hal-millewe, adjoining Olukaranda Village in Kalagampalatha of Nuwara Kalavia in the North-Central Province. The attraction of this site apart from the favourable situation was the presence

of two big wells constructed by the military during the last world war.

About 100 acres were cleared and developed in 1950. An abandoned tank within the area was restored and deepened and about four acres of land below this tank was *asweddumised* for paddy. In addition about 8 acres of low-lying land was developed for rainfed paddy. Five cottages were constructed and a well for domestic purposes built. Three peasant families from Ehalagama Village in North-Central Province and two from the Central Province who had migrated to the North-Central Province were settled, forming a population of 44 individuals including children.

The same system of joint co-operative farming on the same extents of land per settler as in the two major schemes was introduced.

In 1952 two more families were settled bringing the total to seven. A Co-operative Credit Society was registered in 1952 to provide credit facilities to the settlers in the form of cultivation loans, &c., and thus free them from exploitation by local traders. In 1953 a centrifugal pump driven by an engine was installed for purpose of vegetable cultivation during the *yala* season by lift irrigation.

Out of the three families recruited from Ehalagama Village in the North-Central Province two families had mortgaged their paddy fields and whatever they had for various reasons when they joined the scheme. After the second year they were able to redeem their mort-

gages and also save sufficiently to start on their own. They prepared to return to their village and cultivate their fields. The third family was expelled for laziness. Three families were recruited to fill these vacancies.

Makalanagama

This scheme is situated $2\frac{1}{2}$ miles from Galgamuwa on the Ehetuwawa Road in Wannī Hattpattu in the North-Western Province.

The land, about 300 acres in extent, was cleared for food production purposes during the second world war and subsequently utilised for a Co-operative Dry Farming Scheme. The purpose of the scheme was to test the possibilities of co-operative mixed farming with settlers recruited from already existing villages. The scheme was started by the writer when he was in charge of the North-Western Division. Before the scheme was fully developed and the settlers recruited the writer left the division on transfer. The scheme, thereafter, underwent a series of transitional periods till finally it was

handed to the Dry Farming Division in 1952. Since this Division took over the scheme, two farm tanks within the scheme have been constructed and two existing ones repaired and bunds raised; the extent of paddy field under these tanks has been extended to 24 acres. Indifferent and lazy settlers were expelled and the vacancies filled with landless peasants from the Central Province. A Co-operative Production and Sales Society has been registered for the scheme. Eight more cottages are under construction and by the end of the year the number of settlers will be increased from 14 to 22. The system of cultivation and the extent of land given to each settler is on the same lines as in the other schemes.

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KURUNDANKULAMA SCHEME—EACH SETTLER'S INCOME

Year	1	2	3	4	5	6	7	8	9	10
	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
1938-39	158 59	180 91	103 66	270 95	146 13	249 88	222 68	188-88	182 75	168 66
1939-40	142 29	159 89	226 98	224 52	245 93	142 49	172 75	115 37	223 50	198 86
1940-41	407 29	436 40	225 69	209 1	297 15	408 16	345 36	138 55	368 94	381 56
1941-42	688 43	1,145 35	1,029 5	757 55	795 87	393 86	708 59	623 96	653 4	741 99
1942-43	1,092 2	2,240 70	1,609 12	1,509 80	1,333 84	1,142 52	1,356 43	1,346 15	1,245 17	1,476 15
1943-44	1,096 45	1,057 11	650 40	393 56	625 45	660 18	1,249 35	1,147 96	1,046 25	626 45
1944-45	1,310 0	1,158 0	685 0	175 0	418 0	483 0	1,175 0	854 0	1,500 0	1,045 0
1945-46	Vacant	1,740 0	378 0	110 0	409 0	275 0	454 0	1,086 0	1,535 0	300 0
1946-47	Vacant	536 0	380 0	622 0	120 0	212 0	472 0	1,008 0	1,131 0	668 0
1947-48	Vacant	1,142 98	383 0	645 10	425 80	913 0	474 64	1,121 46	1,388 24	301 30
1948-49	1,317 0	1,333 50	823 25	985 37	843 50	648 70	568 50	1,641 27	1,313 79	677 0
1949-50	1,018 70	896 25	726 20	518 5	452 80	645 0	1,031 30	1,093 25	1,049 30	—
1950-51	719 63	1,070 83	970 5	1,213 58	1,371 38	1,063 23	845 18	798 28	819 38	728 38
1951-52*	909 83	1,232 26	1,094 84	1,394 40	2,122 82	2,084 96	1,425 30	1,488 62	1,437 29	1,478 77

* These settlers commenced farming co-operatively from 1951. Note.—The incomes stated above are exclusive of produce consumed by the settlers.

KURUNDANKULAMA SCHEME—CO-OPERATIVE UNIT No. 3

Settlers Farmed Co-operatively since 1948-49 onwards

Year	1	2	3	4	5	6
	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
1948-49	1,137 36	1,119 61	1,113 50	1,086 16	1,172 69	1,135 93
1949-50	1,898 80	1,487 20	1,205 0	1,288 0	1,225 0	1,326 0
1950-51	2,065 0	1,553 42	1,413 72	1,313 0	1,465 0	1,487 0
1951-52	1,941 26	2,051 81	1,720 17	1,772 72	2,031 97	2,084 17

Note.—The incomes stated above are exclusive of produce consumed by the settlers.

KURUNDANKULAMA SCHEME

Income obtained by the new settlers who commenced farming from Maha 1951-52 onwards

<i>Unit No.</i>	<i>Colonist No.</i>	<i>Total Income</i>	<i>Remarks</i>
4	17	—	} Occupied only in February, 1952
4	18	92 50	
4	19	99 12	
4	20	101 70	
5	21	304 86	} Low income due to apathy and neglect of the colonist
5	22	235 90	
5	23	294 1	
5	24	297 26	
5	25	266 32	
6	26	139 60	} Colonist came in February and in March, 1952
6	27	224 50	
6	28	267 10	
6	29	35 60	
6	30	56 0	
7	31	333 52	} Low income due to insufficient attention by the colonists
7	32	262 46	
7	33	298 74	
7	34	439 98	
7	35	367 27	
8	36	304 84	} Certain amount of damage by stray cattle and elephants, and want of attention.
8	37	580 4	
8	38	589 26	
8	39	508 67	
8	40	499 42	
8	41	606 3	
9	42	597 2	} Damage caused by wild animals and birds for want of attention
9	43	612 32	
9	44	574 87	
9	45	589 94	
9	46	572 42	
10	47	455 12	} Insufficient attention by colonists
10	48	406 32	
10	49	411 42	
10	50	446 12	
10	51	426 2	
11	52	451 77	} Colonists came in March
11	53	357 41	
11	54	388 99	
11	55	165 94	
11	56	153 55	

PROGRESS OF DRY FARMING SCHEMES IN CEYLON

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RELAPANAWA DRY FARMING SCHEME

Unit No.	Colonist No.	Total Income	Remarks
1	1	165 55	} Allotments 3-6 were vacant until March 15, 1952. As the sowing and harvesting in these were done on Government Account. The Co-op. Block income of Rs. 1,055.82 was credited to revenue. Colonists No. 1 and 2 left the scheme before the <i>yala</i> season
1	2	263 73	
1	3	151 97½	
1	4	183 57½	
1	5	199 17½	
1	6	171 27½	
2	7	608 84	..
2	8	574 26	..
2	9	550 86	..
2	10	546 48	..
3	12	724 52½	} Failure of crops due to indifference of student colonists
3	13	858 40½	
3	14	858 40½	
3	15	317 21½	
3	16	1,101 7½	
3	17	614 53½	..
3	18	423 71½	} Failure of crops due to indifference of student colonists
3	19	304 85½	
3	20	244 55	
4	21	343 63	..
4	22	472 2	..
4	23	529 80	..
4	24	490 7	..
4	25	414 23	..
5	26	423 68	..
5	27	389 73	..
5	28	450 45	..
5	29	972 5	..
5	30	536 59	..
6	31	594 40	} Low yield in <i>yala</i> due to water logging in the black soil area
6	32	423 84	
6	33	372 3	
6	34	306 95	
6	35	290 57	
7	36	363 29	} Low yield in <i>yala</i> due to water logging in the black soil area
7	37	332 58	
7	38	353 89	
7	39	135 74	
7	40	63 10	

OLUKARANDA SCHEME

<i>Settler No.</i>		<i>1950-51 Rs. c.</i>		<i>1951-52 Rs. c.</i>		<i>1952-53 Rs. c.</i>		<i>1953-54 Rs. c.</i>		<i>1954-55 Rs. c.</i>
1	..	1,375 78	..	1,246 28	..	902 18	..	579 65	..	903 98
2	..	1,388 14	..	1,589 22	..	1,516 10	..	1,313 6	..	1,591 23
3	..	1,337 2	..	1,348 43	..	974 24	..	812 54	..	1,268 99
4	..	1,424 1	..	1,459 1	..	1,097 11	..	314 10	..	765 2
5	..	1,216 73	..	1,078 44	..	795 64	..	792 29	..	903 69
6	..	—	..	—	..	718 16	..	793 28	..	1,180 73
7	..	—	..	—	..	1,049 71	..	851 28	..	1,233 73