

Farming will never be a success unless the farmer  
had more voice in the disposal of  
his produce.—P. Morrel.

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## PADDY CULTIVATION IN THE SALINE LANDS OF MALABAR

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In parts of N. Malabar, the mouths of streams are so formed that where there is lowlying ground, the large volume of water brought down during the monsoon spreads out just behind the bar and deposits large quantities of fine silt. These areas are subjected to tidal waves and annual inundation and can be seen between Mahe and Payanur very near or within a few miles of the coast. The soil in such areas is deep soft clay rich in organic deposits accumulated through years. The fossils of plants and shell fish suggest that these were in places submerged by the sea while there are also indications of the formation of salt pans in many places. Such areas are usually overgrown with 'mangrove formations' but in several places the land has been reclaimed and made to grow heavy crops of paddy.

*Reclamation.*—The scrub jungle is cleared and the area protected from the tides by big bunds often strengthened by a row of mangrove plants or even with rubble stone. A few drainage channels are made within the enclosure and communicate with the river outside through narrow wooden sluices joined across the bunds. The original laying out is a slow and costly process as often the soil for the bunds has to be brought from long distances and it may take many years before the bunds are able to stand the strong currents.

The paddy cultivation in such enclosed areas is locally known as *Kaipad* (sour land) or *Kuthiru* (heap) cultivation. The most common varieties used are *Bali* (awned) and *Orkayma* (kayma suited to saline

lands) raised during the first crop season and *Orkuttadan* grown during the second season. Of these *Bali* is the most popular and is cultivated in the main *Kaipad* enclosures detailed below.

*Preparatory cultivation.*—This starts in January when the area is thoroughly drained through the sluices and as soon as workable is laid out with the *mamatee* into rows of loosely heaped mounds the height of which is increased in lower situations so that the crop raised on them may stand quite clear of the normal level of water. The mounds are three to four feet in diameter and 2 to 3 feet apart at the bar. The bunds, channels and sluices are thoroughly repaired while the soil dries up and gets aerated through deep cracks and crab holes.

*Sowing.*—The first heavy showers in June wash down most of the salt from the mounds. This water is drained off and fresh water allowed to stand just below the top of the mounds, the crests of which are lightly stirred down to water level. Well-sprouted seeds are sprinkled over the mounds on a showery day and more water let in to submerge the mounds to a depth of about 3 or 4 inches. The seed rate may vary from 50 to 100 lbs. per acre according to the vagaries of the monsoon. On the 4th day after sowing, water is lowered and again when the seedlings are about 10 days old, fresh water is brought in to stand to about half the height of the seedlings. This process of occasional changing of water accelerates growth by the washing down of salt and by aeration. Even short spells of sun and floods may do much harm to the seedlings.

*Spreading the seedlings.*—In about 30 to 40 days the seedlings are ready to be spread in the field. A cloudy day is chosen and water drained off in advance. Weeds are pulled out and buried. Since the work has to be hurried through against probable floods and since the *Bali* seedlings cannot stand much disturbance, a dexterous process of chipping the mounds with a small *mamatee* to take 2 or 3 seedlings on each chip and distributing these chips in the field is adopted. In some places bigger chips are cut and thrown about by men while the final distribution is done by a band of women coolies. The work is done with such thoroughness that the field is again brought to its original level condition with the seedlings distributed about 6 inches apart. Water is now allowed to stand to about half the height of the seedlings which soon establish and tiller profusely.

*After-cultivation.*—The after-care consists only in the regulation of water and in the safe keeping of the bunds. Though the water in the river will not be saltish at this part of the year this is not let into the crop except when other sources are blocked. From the period of flowering in about September, about 2 to 3 feet of water has to be maintained to prevent lodging.

This is a very vital stage in the life of the crop and even a short spell of hot weather may do much harm. Water is drained off only after the earheads ripen, and the crop is ready for harvest—by about the middle of October. The earheads only are cut, the stubbles being left behind. The last supply of fresh water is now let in to cover the stubble and kept on till about January. The yield from such areas will be about 2,000 lbs. but may vary from 1,000 to 3,000 lbs. per acre.

One peculiar feature of this method of cultivation is that no manuring is done since the decayed stubbles, plant and animal deposits and the silt

brought down by the floods replenish the annual loss from cropping. The cost of the cultivation may vary very much with the cost of repairs to the bunds, sluices, etc. But in normal years the labour requirements will be about 100 men and 50 women per acre. This may appear very cheap and paying, but the occasional breaches of the bunds may wipe off the profits of many years. The yields are very unsteady though they may occasionally be heavy.

There are a few sources of subsidiary income from such lands. The bigger bunds may accommodate a short-duration crop of paddy or a row or two of heavy-yielding, though short-lived, coconut trees. The edges of the outer bunds give a good crop of ragi. In places where river water is let in after harvest, a variety of fish and prawns breed within the enclosure and these collected at the time of draining the fields often fetch about Rs. 10 to 15 per acre. The majority of the depressed classes, e.g. Panchamas are traditionally attached to this type of land which affords them employment not only in paddy cultivation but also in cottage industries like coir manufacture, mat-making, fishing, etc.

The outskirts of *Kaipad* lands are not conveniently enclosed by bunds and such areas are cropped with *Orkayma* which stands salinity to a greater extent than *Bali*. In this case the mounds are formed only in June and seedlings brought from high lands are transplanted on them. In another month the mounds are again dismantled as in the case of *Bali*. Subject to floods and salinity to a greater extent the yield is poorer and there will be a much higher percentage of chaff than in the case of *Bali*; but the rice is finer. The outskirts also can gradually be enclosed and converted into regular *Kaipad* lands.

In lowlying saline areas where water stands to a greater depth and for a longer period, transplanting cannot be done till about September. Such areas are also protected by strong bunds and sluices but are planted with a deep-water variety known as *Orkuttadan*. The method of cultivation is again different. With the first showers the land receives 2 or 3 ploughings with intervals of about a fortnight. The monsoon floods convert this area into a small lake and a large quantity of silt is deposited over the loosened soil. With the abatement of the S.-W. monsoon, water is drained off and after one puddling with the plough, seedlings raised in coconut gardens are brought and transplanted in big bunches about a foot apart. The excess water is drained off occasionally and one weeding is given. The crop comes to harvest in January-February and may give from 1,500 to 2,000 lbs. of grain per acre. The labour requirements per acre will be about 10 pairs of animals, 25 men, and 80 women. Unlike *Bali* and *Orkayma* the straw of *Orkuttadan* is very much valued for thatching purposes.

The high-level paddy lands adjoining *Kaipad* lands also develop a certain amount of salinity and may be rendered unfit if not attended to in time. Various methods have been evolved to keep down salinity in such areas. After the harvest of paddy the land is hand-dug and laid out into loose clods or even formed into loose ridges and furrows and levelled down only at the time of transplanting. Trenching at intervals or the replacement of the soil in the saline patches with good soil from outside, are also done occasionally. The bunds are kept high and strong against high tides while a temporary dam may be thrown across channels.

*Possible lines of improvement.*—Since the existing practices are evolved through age-long trials and since the yields are dependent more on weather conditions than on other factors, the scope for improvement is very limited. The introduction of better salt and flood-resistant and heavier-yielding varieties, better care in the maintenance of bunds and sluices, formation of trenches to facilitate quicker drying in the hot season, replacement of wooden sluices by reinforced concrete structures, arrangements for a fresh water supply in times of drought, systematic collection of crabs by trapping, and the incorporation of *Daincha* (*Sesbania aculeata*) or other green leaf in the case of the high-level saline lands are a few of the important items of improvement.

A portion of the saline marshes has also been reclaimed for coconut cultivation. There are still many extensive stretches of this type of land which are a hindrance to easy communication with the river, due to the thick growth of mangrove jungle which also harbour noxious creatures like crocodiles. With organised capital such areas can be cleared and converted into smiling farmsteads of paddy and coconut to support a large proportion of the unemployed and half-starved population of Malabar.

## MADRAS MILKMEN

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In Madras city, there are several types of men who maintain milking cows, either for commercial purpose or for their own consumption of milk and these can mainly be classified as:—

1. Private cow owners,
2. Milk contractors and rich milkmen,
3. Average milkmen,
- and 4. Poor milkmen.

1. *The private cow owners* are men who maintain milch cows for their own use and many permanent officials and well-to-do residents of this city are forced to keep one or two milch cows of their own in their backyards to provide them with pure milk.

2. *Milk contractors and rich milkmen.*—These are well-to-do men who take contracts for supplying milk to several institutions like the General Hospital, Mental Hospital, Maternity Hospital, etc., and to some of the prominent coffee hotels in the city. Some of these contractors do not possess cows of their own but they receive milk from the milkmen and supply it to the party concerned. Some rich milkmen are both contractors and cow owners. Both the above parties get their work done by coolies and they supervise and take the profit. Such men are very few in this city and can be counted on one's fingers.

3. *Average milkmen.*—These are the professional milkmen, who supply milk to the Madras city in general and are many in number in each locality. They adjust themselves in different streets of the city to suit their conveniences and facilities in carrying on their business. In certain cases the