

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.

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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

milkman will have to hire out accommodation both for himself and for his cattle. The number of cows owned by him varies from 4 to 8 and sometimes 9 or 10 mainly managed by himself, his wife and children. In certain cases, if the children are very young, he engages a cooly for sometime to help him in carrying on business, but when his first child reaches the age of 6 or 7 years, he dispenses with the services of the cooly and manages without any additional expense. About 50 per cent of this class are illiterates and have their own ways and scruples.

4. *Poor milkmen.*—These are of the same type as mentioned above and the number of cows owned by them varies from 1 to 4 each. They are financially very poor and addicted to drink as well. Hence, the major portion of their daily earnings is mainly spent on that extravagant luxury. In some cases they do not even provide shelter for their cows during inclement weather, mainly because they cannot afford to do it. In certain cases, some do not even feed their cows properly, even though they extract every drop of milk the cows can give.

In both the above classes, especially among poor milkmen, many youths have not much to do at home, except milking cows, selling milk, etc. for a few hours in the morning and evening. Every other work, such as feeding, watering, cleaning stalls, etc. of these milch cows is done by female folk. Very often one is likely to find many youths of these classes loafing about the streets or picking up quarrels with one another for trivial things throughout the day. A sort of idle and easy-going life has been created in them by their profession which is more or less being carried on from generation to generation. To have plenty of leisure they keep only milch cows throughout the year, so that the maintaining of dry cows and calves might not engage their full time and attention for a successful rearing of stock. Their only business and aim in life is to milk the cows and sell the milk to their regular customers and make as much money out of it as possible for their living. They adulterate milk to the fullest extent if the customers happen to purchase milk from their houses or if they are a little bit slack in supervising the milking.

Milch cows in this city can be broadly classified under 3 main groups ; and they are :

1. Crossbreds,
2. Ongoles,
- and 3. Locals.

The first group, i.e. the crossbred cows, do not seem to suffer much at the hands of these people, due to the following reasons. The first thing is that they form only about 25 per cent of the milch cows in this city at present, and among them many being too costly are beyond the reach of an ordinary milkman. Secondly there is no source of getting them on part-payment or credit system. The third and the most important factor is that they come into heat every month and even if the milkman overlooks the first two or three heat periods, he is forced to take them to a bull on the fourth or fifth month of their lactation, to be crossed. So, by the time they go dry, they will be about six or seven months in calf and some crossbred cows milk even a month prior to their calving leaving only a dry period of about a month or so. Hence, they do not find the necessity of disposing of many in this class.

The Ongoles.—The supremacy of this breed for its dual purpose over all other breeds in Southern India has been well established many years ago and even under its present deteriorated condition, there is no other breed in Southern India, to equal them or to surpass them, for their dual purpose. The importance and history of this breed, has already been recorded by several eminent men like Messrs. H. C. Sampson, G. A. D. Stuart and A. Carruth and a repetition of the same will only be superfluous.

It has already been pointed out that the main source of cows' milk supply to the public in this city is from the Ongole cows at present, and these are not indigenous to this locality. But, these are purchased by milkmen mostly at Thiruvotriyur where there are several reliable brokers and cow owners. These people in their turn go and purchase them from the Ongole tract at cheaper rates and collect them at Thiruvotriyur for sale. Some well-to-do milkmen go to the Ongole tract itself and purchase them at cheaper rates and bring them down by rail. Old cows, heifers and dry cows, are not generally purchased by these milkmen: they buy only milch cows a fortnight after their calving and that too mostly in their second or third lactations.

There are several methods of purchasing the animals and they are described below. Some prosperous milkmen who can afford to pay ready cash, pay in full at the time of purchase. A second class of people purchase them on part-payment system, i.e., they pay about half the amount when they purchase the animal and the remaining sum in one or two subsequent instalments within a month or two. The poor class of people purchase them on monthly payment system, i.e. they pay a small sum at the time of purchase and the balance is cleared in five or six subsequent monthly instalments. The last system is not very wide in practice at present in this city.

Thus a cow in milk with its calf is purchased by a milkman and brought down to the city to enable him to carry on with his trade. He feeds her well during the first half of her lactation period to get the maximum amount of milk out of her. Later on, when the lactation advances, he reduces her feed, taking care to see that he maintains her condition throughout, especially at the time of drying, as otherwise a butcher may not offer him a decent sum.

The housing problem is another troublesome thing for these milkmen; and many have to hire out sheds, if they happen to live in main streets. But some poor people, who live in side lanes manage to keep the cows in their backyards or front verandahs and road sides. A contractor or a well-to-do milkman has got his own cattle-sheds but these too are over-crowded. In almost all cases, except those of very few well-to-do milkmen, the stalls are always dirty and offensive-looking.

Granting that the cow is well fed and sheltered, his next attempt is to kill the calf, which he thinks to be a necessity, as he finds it to be an unnecessary burden on him. He brings about this end within a month or two, either by starving it or by too much exposure to inclement weather. The greatest pity in most cases is that the calf is not even allowed to taste a drop of its mother's milk from the date of its arrival to the milkman's house. Some kind-hearted milkmen feed them with *kanji* water and straw.

and allow them to suckle the empty udder for a few seconds. But the calf dies within a couple of months and the man cheerfully carries on his milk trade with a dummy calf.

His next idea is to prolong her lactation, by not allowing the cow to be crossed by a bull even if she comes to heat twice or thrice during the first half of her lactation. He overlooks these heat periods and finally when the cow becomes boisterous and uncontrollable, he is forced to take her to a bull, as otherwise she refuses to feed or milk. But, this very rarely occurs in Ongole cattle, and that only when she is pretty advanced in lactation or when she is about to dry. Hence most of the Ongole cows when they go dry, are either one or two months in calf or might not have even received the bull. It is at this stage they are sold to the butcher. As is evident from the above facts, an average milkman in general does not care to maintain an Ongole cow for more than one lactation.

Most of these young milch cows that are brought to this city by the milkmen do not reach their maximum yielding capacity and many of them happen to be within their fourth lactation. It is a great pity that these young milch cows, coming from north in full milk with nice calves at foot, complete their particular lactation at the hands of the city milkmen and find their way to the slaughter-house. They as well as their calves are therefore entirely lost to the country.

One is likely to be surprised when he enters the city slaughter-house and sees the condition and state of the Ongole cows brought there and slaughtered. The average number of animals slaughtered daily in the cattle section will be about 48 and one-fourth of these can be taken as Ongoles. The remaining animals are buffaloes, country cows and crossbreds. Among the Ongoles at least 7 can be taken as young ones in good condition, just after the completion of their first, second or third lactation. The fact that they are sold on the very day of their drying can be witnessed from the slaughter-house itself. The cow as soon as she is taken in, is cast down on the platform or stall intended for the purpose, and a low caste man, generally goes and milks her. He gets a few drops from every cow thus cast down, and makes about a lb. or two for his daily use. The subsequent work of severing the heads one after the other, on the same spot is performed by a professional by means of a big chopper.

Thus, the average number of Ongole cows slaughtered in this city slaughter-house, between their first and fourth lactations can be taken as about 2,500 annually, based on a minimum daily average of 7 as mentioned above. One is likely to wonder, how long this kind of supply can be met by the Ongole tract, and what will be the fate of these milkmen in this city when sufficient number of cows are not forthcoming from the tract.

The reasons of the milkmen for behaving in this manner can briefly be summarised as follows:—

1. Want of proper grazing area,
2. Want of proper stalls to house animals,
3. Their financial circumstances,
- and 4. A desire to lead an easy life and at the same time to make a living.

Rich milkmen and contractors, who of course are very few in this city at present and who start the business with some capital, do not generally come under this description, as they have got some stalls to keep their cows in and have men in the neighbouring villages to look after their dry cows and calves on contract system. It is to be regretted that even these contractors have very limited knowledge with regard to animal husbandry.

Local breed.—Though they share the same fate as Ongoles they are very few in number, i.e. about 20 per cent and are not very good milkers in general. Even if some cows and calves are lost among this class through the carelessness of these people, the public will not have so much reason for grievance as they have at present in losing Ongoles. It is because of this, an attempt is made to illustrate briefly the sufferings of the Ongole cattle at the hands of the milkmen and to make them understand that the public are losing a valuable breed or rather the best breed in Southern India through their carelessness, and also to make them realise that if they are to carry on the same trade for some years more, not only the public but they too will have to suffer in the long run.

PLANTAIN VARIETIES IN THE CIRCARS

AN ALPHABETICAL LIST OF VARIETIES FOUND IN GODAVARI,
VIZAGAPATAM AND GANJAM DISTRICTS

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Serial No.	Name of variety	District	Class	Remarks
1	<i>Amrilhapani</i> ...	Godavari ...	B	For description <i>vide</i> notes appended—item 7.
2	<i>Do.</i> ...	Vizagapatam.	B	A name given to a variety similar to the above but with a lighter and drier flesh resembling that of the <i>Virupakshapazam</i> of the Palnis; grown on the hills.
3	<i>Billa mokiri</i> ...	Do. ...	D	A name sometimes given to No. 7 below.
4	<i>Bontha</i> ...	All the three districts.	A	A common name for Nos. 5, 6, 19 and 20. Same as <i>Monthan</i> of the south.
5	<i>Budida bontha.</i>	Do. ...	A	For description <i>vide</i> notes appended—item 2.
6	<i>Budida bontha bathis</i>	Do. ...	A	For description <i>vide</i> notes appended—item 4.
7	<i>Chakkarakeli</i> ...	Godavari ...	D	For description, <i>vide</i> notes appended—item 5.
8	<i>Ginjala arati</i> ...	Do. and Vizagapatam.	G	A seeded variety cultivated for curiosity.