

## LIVE-STOCK IN CEYLON

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**A** consideration of the Imports for the year 1929 would appear to indicate that there is room for considerable extension in the breeding of live-stock in Ceylon.

During that year Ceylon imported live animals and animal products for food purposes, to the value of Rs. 7,257,338. This figure is the value as given at the Customs and is in most cases very much lower than the figure at which these products are actually sold to the consumer. Our annual bill, therefore, is a considerable one.

It is my purpose to-day to consider, very briefly, the reasons why Ceylon is not self-supporting in respect of these products, and to indicate if possible means by which this drain on the country's resources may be lessened.

I propose to deal with each class of live-stock separately.

### SHEEP AND GOATS

The Customs returns for 1929 show that goats to the number of 100,298 valued at Rs. 2,005,960, and live sheep to the number of 21,846 valued at Rs. 436,960 were imported from India and Aden. The majority of these are slaughtered for food purposes at Colombo, the remainder being sent to outstation towns, chiefly Kandy, Nuwara Eliya, Ratnapura, Negombo, and Galle.

It is an extraordinary situation that Ceylon has to obtain her supplies of such hardy and easily reared animals from places as far distant as Bangalore and Aden. The animals which are imported are not of very superior quality; indeed the bulk of them are little if at all superior to the local goat. Further they deteriorate during the long and tedious journey to Colombo, so much so, that many of them arrive diseased and die shortly after arrival.

In addition to the live animals, Frozen Mutton to the value of Rs. 235,683 and Tinned Mutton to the value of Rs. 8,817 were imported. That is a total bill for sheep and goats of nearly Rs. 3,000,000.

There would appear to be no reason why the greater part of this large sum of money should not remain in the country. Goats, and to a lesser extent sheep, are bred in parts of the Island such as the Jaffna Peninsula and Batticaloa District. Very little attention or care is bestowed on the animals by their owners. In

Jaffna they are kept chiefly because goat manure is of value for the cultivation of tobacco, however, sufficient mutton to satisfy the local demand is produced in that area.

Colombo alone consumes approximately 100,000 head of goats per annum almost all of which are imported from India. During a temporary cessation of importation last year Colombo had to depend on Ceylon bred animals. Considerable difficulty was experienced in obtaining sufficient numbers. It was noted however that while the carcasses of the Ceylon goats were on the whole smaller than those of the Indian goats, yet they were much freer from disease, and the mutton was of better quality.

Goats, and more especially sheep, do not thrive on damp heavy soil. Breeding them in the wet zone is not therefore likely to prove successful, but goat breeding would appear to be an industry admirably suited to the dry zone districts.

Goats do not live on grass. They will eat grass but thrive best on the leaves of shrubs. Areas of scrub jungle on light sandy soil provide favourable conditions. Such areas are to be found in the dry zone and goat breeding should provide a very valuable adjunct to village agriculture in such areas.

Obstacles to the development of such an industry are the following:

1. *Lack of marketing facilities.*—The best market in the Island is Colombo. Unfortunately the Colombo butchers all appear to have business connections with the Indian importers, and as a result of the credit system are not free, even if they wished, to obtain their supplies from any other source. The Indian goats are landed in Colombo almost, one might say, on the butcher's doorstep, whereas to obtain Ceylon goats it would be necessary for the butcher to send his agents out into the villages to buy the animals, collect them together at some point on the railway and despatch them to Colombo. To remedy this state of affairs a co-operative society would appear to offer the best solution. Such a society could have its own mutton stalls in Colombo and in the larger outstation towns at which only Ceylon mutton would be sold.

The stalls would be supplied by regular consignments sent through the society by its members in such districts as for instance Mannar, Mullaittivu, or Jaffna. The society could also obtain and make available to members stud goats of improved type and popularize castration of the young male kids, an operation which greatly improves the quality and quantity of the mutton, and which is seldom done in Ceylon.

2. *Losses from wild animals such as leopard and jackal.*—In jungle districts these levy toll on the flocks, but the losses can be reduced by herding the goats during the day and kraaling them

at night. The herding is work suitable for boys and kraaling at night-time enables the very valuable manure to be collected for use as fertiliser.

3. *Lack of good stock for breeding.*—This could be remedied by some of the wealthier landowners importing goats from India or elsewhere, breeding them under suitable conditions, and distributing the males for use in the villages.

4. *Diseases.*—The chief diseases from which goats suffer are pleuro-pneumonia, worm parasites, and anthrax. These three diseases are most prevalent when goats are overcrowded or kept on wet swampy land. They can be reduced to a minimum by avoiding overcrowding and wet land.

I hope I have said sufficient about sheep and goats to show that there is a possibility of developing this branch of stock breeding in Ceylon, especially in the drier districts, with consequent benefit to the village population.

Coconut planters might try the experiment of running a flock of sheep on their estates.

A word must be said concerning the great value of goat milk as a food for infants and invalids. Cow milk is scarce and expensive throughout Ceylon. A goat can be kept under conditions which would make it impossible to keep a cow and the practice can be recommended to people who find difficulty in obtaining supplies of good cow milk at a reasonable price.

#### POULTRY

During 1929 Ceylon imported Frozen Poultry and Game to the value of Rs. 137,545, live poultry and game to the value of Rs. 316,351, and eggs to the number of over 15 million, valued at the Customs, at the very conservative figure of Rs. 502,301. That is, our bill for poultry and eggs reaches a total of Rs. 956,197, practically a million rupees. One has no hesitation in saying that it is possible to keep the whole of this sum of money in the country.

Poultry thrive in Ceylon, indeed Ceylon is the home of one of the progenitors of all the breeds of domestic fowls. The eggs and live poultry imported come largely from South India and a large proportion of the eggs are duck eggs. Surely South India is not more fortunate than Ceylon in respect of climatic and other conditions favourable for poultry breeding. As far as duck breeding is concerned one could not wish for more favourable conditions than are to be found throughout the wet zone.

A variety of reasons appear to be responsible for the small numbers of poultry kept in Ceylon.

In the first place the bulk of the Sinhalese population are not interested, on account of religious prejudices, against the taking of life. Apart from this, there is the lack of marketing

facilities. The best market is to be found in the towns, but the villager has no means of reaching this market except through the medium of itinerant dealers, and the prices obtained are not sufficient to stimulate interest. A further reason is the very small size of the eggs and the lack of flesh on the chickens. Subsidiary reasons are losses from jackals, crows, snakes, hawks, and mongoose; losses from disease which on occasion may be heavy; and losses by theft.

As regards measures for improving these conditions, very little development of this industry can be looked for among the strictly Buddhist population on account of religious prejudices and efforts should, therefore, be concentrated in the non-Buddhist sections.

Improvement of marketing facilities and of the breed of poultry should give scope for co-operative societies.

Local societies would act as centres for the collection of eggs and chickens and would forward them, by bus, for sale to larger central societies situated in Colombo and other towns. These central societies could have their own stalls for the sale of the produce. The local societies could also be used for the distribution of improved stock.

Improvement of stock could best be obtained by crossing of the local breed with imported stock. It would not be advisable to encourage villagers to replace the indigenous breed with pure bred birds of imported stock nor indeed would it be practicable. Very marked improvement in size and number of eggs and in rapidity of growth of chickens can be obtained by crossing hens of the local breed with cockerels of improved breeds.

In this connection a method which has been tried and proved a success in some of the African colonies such as Kenya and the Gold Coast would appear to have much to recommend it in Ceylon.

Instead of distributing cockerels here and there throughout the country, a method which is bound to be slow in producing results as the influence of the improved breed is swamped by the great preponderance of the indigenous stock, attention has been concentrated on selected villages. The interests of the headmen and villagers having been aroused by visits and lectures an offer is made to them of cockerels of improved breed in exchange for their own cock birds, on condition that all, or at least a very large proportion of their own cock birds, are surrendered. Any of the improved cockerels which may die are replaced free. This work has generally been done through the Veterinary Department who maintain small poultry farms for the breeding of the cockerels and for the sale of settings of eggs at a very low figure. The cockerels surrendered by the villagers are sold on the market and

help to reduce the cost of production of the improved cockerels. Another advantage of this method is that indiscriminate crossing with a number of breeds is avoided. The issuing authority first decides on the breed to be used and obtains birds of the very best quality. Only one breed is kept and continued issues of the same breed results in uniformity and continued improvement among the village fowls.

I would recommend this method to the Ceylon Poultry Club. They would be performing a very useful service and furnish a very valuable demonstration if they select some village and supply the people with good cockerels in exchange for their present birds. Should the experiment prove a success neighbouring villages would become interested. A further advantage of this method is that after a few years of issuing good cockerels the type of fowl in the village would become improved to such an extent as to be suitable for distribution to neighbouring villages.

As regards losses from disease there are certain points which must be observed if these are to be reduced to a minimum. Avoid overcrowding and land which has been used for breeding poultry for a number of years, that is, get the birds away from the immediate vicinity of the bungalow; avoid indiscriminate purchases of new stock from unknown sources, for example, the itinerant hawker; and prevent birds straying outside your own premises.

Losses from vermin such as crows, snakes, etc., are heaviest when the birds are young and can be reduced by confining the young chicks to runs during the first few weeks of their life. Thefts of eggs can be avoided by the use of properly constructed and locked laying boxes.

In the coconut districts there are thousands of acres of land suitable for poultry rearing. In these days when prices of coconut produce have fallen so badly planters might turn their attention to poultry as a side-line. To any planter who contemplates the experiment I would give the following advice:

1. Start in a small way and extend as experience is gained.
2. Be sure your stock is obtained from a reliable source.
3. Provide movable houses which can be securely locked to prevent theft of birds and eggs.
4. Avoid the immediate vicinity of the estate bungalow—get the birds out on to clean land.
5. Do not keep weakly or old birds. Very few hens over three years of age will pay for their keep.

Owners of tracts of wet swampy land should try the experiment of keeping a flock of ducks or geese. Given wide range over such lands these birds will find the bulk of their food,

During the first 2 or 3 weeks of their lives they require protection from direct sunshine or from heavy rains. After that they are very hardy and suffer little from disease.

There is always a demand for well-grown young turkeys at Christmas time. Turkeys require plenty of free range. They cannot thrive on contaminated soil. Attempts to keep too many or to confine them in small runs are sure to meet with failure. If turkeys are kept they should be kept separate from other poultry. It is not advisable to mix them. The adult turkey is responsible for spreading gape-worms which may cause heavy loss in young chickens.

One could say much more on the subject of poultry, but I am afraid time will not permit.

I would urge on any person who has suitable land the advisability of keeping a good class of fowl. Even if only enough are kept to make the household independent of outside supplies something will have been done to reduce Ceylon's bill for imported fowls and eggs; a bill of such dimensions as to constitute a reproach to the country.

#### CATTLE

The position in Ceylon at present may be stated shortly as follows: With the exception of frozen, tinned, and salted meat to the value of Rs. 357,858 the meat supply for the past 18 months has been furnished by the local cattle and buffaloes. That is, the bulk of the meat consumed is locally produced. The imported meat is more or less a luxury article and of a quality which it is quite unlikely could ever be produced in Ceylon. The local supply appears to be ample to meet the demand and prices are not high, unfortunately, it is of poor quality.

Dairy produce is imported in large amounts, the figures for 1929 are as follows:

|                   |        |     |           |
|-------------------|--------|-----|-----------|
| Frozen Butter ... | ...    | Rs. | 451,664   |
| Tinned Butter ... | ...    | „   | 269,555   |
| Ghee ...          | ...    | „   | 261,950   |
| Preserved Milk    | ... .. | „   | 1,631,360 |
| Skimmed Milk      | ...    | „   | 14,499    |
| Fresh Frozen Milk | ...    | „   | 1,375     |
| Cheese ...        | ...    | „   | 155,955   |
|                   |        |     | <hr/>     |
|                   |        | Rs. | 2,786,358 |

We are therefore practically self-supporting in so far as meat is concerned, but import considerable quantities of dairy produce.

The poor quality of our local cattle is frequently deplored, and from time to time suggestions are made for their improvement. The suggestions, most frequently made, are the issue of

stud bulls of improved types, and the provision of pasture lands. It is my opinion that no lasting improvement can be expected by distributing stud bulls of larger and better breeds. In the first place the cost would be prohibitive. We have a million head of cattle and half a million head of buffaloes in the country. If we take a quarter of these as cows of breeding age and allow one stud bull for every 40 cows it will be seen that 10,000 stud bulls would be required. A few hundred bulls scattered over the country can have no permanent effect on the breed. The introduced blood is swamped by the enormous preponderance of local blood. In the second place, the reason of the inferior quality of our cattle is, that for the conditions under which they are kept, they are the only type of cattle which can exist. So long as present conditions of cattle keeping in Ceylon remain as they are, then, so long will the local breed be the only breed suitable. It has become adapted by natural selection and survival of the fittest operating over a long period of time, and any attempt to replace it by a superior type without radical alteration in conditions is not likely to be a success.

The average cattle owner keeps cattle primarily in order that he may have one or two bulls suitable for carting purposes. His cart bulls are the best specimens he owns and, when working, are carefully attended and generally get some artificial food, *e.g.*, poonac and straw. The cows and young stock are unprofitable, the quantity of milk produced by the cows being so small as to make them scarcely worth the trouble of milking. The result is that the owner is not prepared to incur any expense in feeding or caring for them; he expects his cows and young stock to find their own living on such waste lands, roadsides, or fallow paddy fields as may be available in the neighbourhood. Under such conditions breeding is not controlled in any way by the owner. As I have said, the best bulls are used for carting, leaving the undeveloped young bulls, bulls rejected for carting purposes as undersized, and old bulls no longer fit for carting work to act as stud bulls. The inevitable consequence is that the herd increases in numbers and deteriorates in quality. As a rule no attempt is made to reduce the numbers by disposal of old animals, and undersized or otherwise unsuitable animals. The obvious avenue for disposal of such animals is by sale to the butcher, but for religious and sentimental reasons this avenue is availed of only with the greatest reluctance.

In most districts cattle are not used to any great extent for cultivation of paddy land this being chiefly done by buffaloes. Apart from carting, the only use the cattle are put to is for manuring, as on coconut estates.

Buffaloes are used for cultivation of paddy lands and, in some parts, the cows are milked for the purpose of making curd.

Cultivation of paddy fields takes place only during a short period of the year, for the remainder of the year the buffaloes bring in no return to their owners and are neglected and turned loose to live and breed as best they may.

The underlying reason for the poor quality of Ceylon cattle and buffaloes is therefore economic.

The measures necessary for improving the cattle are fairly easy to enumerate but they will all cost money, and it is not so easy to see how the villager is to get a return for money so expended. The prohibition of import of cattle from India has done something to stimulate a demand for cattle for slaughter purposes and to provide a remunerative outlet for surplus stock. Unfortunately the consumption of meat in Ceylon per head of population is not large and the number of cattle absorbed in this way is not very great.

Improvement of the cattle would result if the following conditions which I have listed in order of their importance could be brought about:

1. A decrease in the number by elimination of old, decrepit, undersized and otherwise unprofitable stock.
2. The improvement of lands used for grazing by fencing and clearing of scrub jungle.
3. The growing and storing of fodder crops for use during periods of drought.
4. Better feeding of young calves. This is important. At present if a villager has a cow which is a better milker than the remainder of the herd he is likely to take practically all of the milk for his own use leaving too little for the calf, with the result that the calves of the better milking cows are starved and many die, while the calves of the poorer milker live.
5. Early castration of all young bulls of inferior quality leaving only the most promising bulls for breeding.
6. Reservation of the very best of these bulls for breeding instead of using them in the cart.

I would emphasize that if any attempts are to be made to improve cattle by crossing with imported breeds then an essential preliminary is an increase in the food supply. The necessity of concentrating such effort is also important. A small district should be selected and all the available stud bulls of the improved breed issued to this one district. If such a policy be combined with an intensive castration campaign there would be some prospect of general improvement of the cattle of the district. Such a district might ultimately become a source of supply of stud bulls for other more backward districts.

So far my remarks have been confined to cattle of the local breeds as kept by villagers—dairy cattle are kept under different circumstances.

As the Customs figures show the demand for milk and milk products is not met by the local supply and large quantities are imported.

Dairying on a commercial scale is not profitable if the local breed is used. The Ceylon dairies are therefore stocked with cattle of imported breeds either Scind cows from India or cows of various European breeds from England and Australia, or crosses between these types.

High-yielding cows of European breeds are successfully bred in some of the up-country districts. They are largely owned by Tamil coolies on tea estates. They are seldom allowed to graze being kept in small sheds, and fed on *Paspalum* grass cut from the roadsides and ravines supplemented with gingelly poonac. Such cows find a ready sale in Colombo. The prices fetched varying between Rs. 300 and Rs. 450 according to the milk yield. Milk in such districts is plentiful and cheap. In Colombo and other towns it is scarce and very expensive. The reason it is scarce and dear is that no means have been developed for transporting milk over any considerable distance without deterioration. The towns therefore depend for their supply on dairies situated either actually in the towns or in the immediate vicinity. Milk from town dairies must inevitably be dear if the dairyman is to secure a profit as expenses are heavy. In the first place rents are high, all cows have to be purchased as there are no facilities for rearing young stock, all foodstuffs including even grass have to be purchased, labour is expensive, and losses are heavy as cows crowded together in small dairies are more liable to disease.

As I have said high-yielding cows are bred on the estates at high elevations and, doubtless, many more would be bred if there was a profitable outlet for the milk produced. Such an outlet could be furnished by the establishment of creameries in these districts for collecting, pasteurising, and despatching milk to Colombo. The transport of milk over considerable distances, even in the Tropics, is practicable by the use of efficient pasteurising machinery and refrigerating vans on the railway. To my mind it is along these lines that Ceylon must look for an increased supply of milk at a reasonable cost.

It may be asked why should not dairies be developed in the low-country in close proximity to Colombo so obviating the necessity of transport over long distances. Such dairies are in existence on a small scale but they labour under certain disadvantages. In the first place, the supply of nutritious grass is difficult and, in the second place, on account of the prevalence of

ticks and ticks borne diseases such as piroplasmosis and anaplasmosis, cows of the high-yielding European breeds are difficult to breed.

For dairies situated in the low-country the most suitable breed would appear to be first crosses between Scind cows and a bull of such imported breeds of high milk yielding capabilities as the Ayrshire or Friesian. An essential for such dairies is a campaign against ticks. The most economical as well as the most effective method of combating these pests is by means of a dipping bath.

There is one other feature of the Customs returns which is rather surprising in view of the general apathy concerning live-stock in Ceylon. I refer to the sum of Rs. 15,000,000 for imported artificial manure. I believe, I am correct in stating that farmyard manure is equal, if not superior, to any artificial manure so far as crops grown in Ceylon are concerned.

An increased development of the live-stock industry would help to reduce this very large bill for imported manures.

#### DISCUSSION

MR. H. L. DE MEL expressed his gratitude to Mr. Crawford for the practical suggestions in his excellent paper. He felt sure that when some of his young friends established themselves as gentlemen farmers throughout the island, they would have more of those little farms which would supply pasteurised milk and capons for the City's consumption. He suggested that the Director of Agriculture might, quite apart from publishing the paper in *The Tropical Agriculturist*, issue it in the form of a pamphlet to be distributed throughout the country. As regards the rearing of cattle and sheep on estates, this was already very largely done, for animal husbandry was an important adjunct to coconut cultivation. He appreciated the emphasis laid on the difficulty of improving village cattle. He himself found that the best way towards surmounting this was to do as he had done and dispose of some of his younger bulls from his cattle farm in Kurunegala to the villagers in the neighbourhood. In the matter of poultry farming a great deal was done by the Christian population along the Negombo-Chilaw road and it did one's heart good, to see crates full of chickens carried on tops of motor-buses into Colombo, for disposal there. He would like, however, to see young men of the student type taking to dairy farming. The ideal would be for groups of these farmers to combine in co-operative effort with a motor-van and one or two stud bulls common to the group. This method of co-operative endeavour was practised very largely in Germany and Denmark and proved very successful.

MUDALIYAR N. WICKREMATNE enquired whether the statistics mentioned in the paper were a correct census of cattle in the Island, and if so, of the million head of cattle how many were employed for purely agricultural purposes.

MR. CRAWFORD replied that no distinction had been made in the figures mentioned by him which he had listed as supplied in the headman's returns.

MR. STURGESS said that if figures for any particular district were wanted he would be glad to supply them, and in response to a request by Mudaliyar Wickremaratne gave the following figures for the Kurunegala district: Neat cattle, 202,850, of which 20,925 were milch cows; buffaloes 31,859 of which 17,606 were milch cattle.

MUDALIYAR WICKREMARATNE recalled that when rinderpest broke out in the south in 1910 thousands of head of buffaloes used for ploughing perished and the villagers were reduced to using neat cattle for ploughing, despite sentimental prejudices. He suggested that it might be useful if statistics were kept separately of agricultural, draught, and dairy cattle.

MR. REGINALD FERNANDO stated that in the North-Western Province all the neat cattle reared were only used for breeding cart bulls and for grazing on the roadsides.

MR. H. A. WEBB asked what steps were advisable to reduce the enormous numbers of inferior stock in the Island.

MR. R. C. PROCTOR remarked on the inhuman practice of tethering cattle to coconut palms in all weathers in the North-Western Province. The poor animals were sometimes strangled and he desired to know if statistics could not be obtained of the number of cattle used for this purpose so that the S.P.C.A. might take the matter up.

SIR H. MARCUS FERNANDO remarked that Mr. Crawford's remarks were in conformity with the views he had stated the day before in connexion with animal husbandry in coconut cultivation. They were very thankful to Mr. Crawford for his excellent paper, which covered a very wide area of ground. He would like to offer some remarks on the paper as he had some experience of the subject. In regard to sheep his little experience was very unfortunate. Through the office of Mr. Stockdale he had imported some sheep from Mauritius, but they died from pneumonia as soon as they reached his estate. With goats, on the other hand, he had considerable experience for a number of years. On the suggestion of his son, and through the Department of Agriculture he introduced into the low-country, goats of the Jamnapuri breed from the United Provinces of India. Unfortunately, the animals which in the first instance were not fit to be exported, arrived here in a very weak state of health. He placed them on an estate where there was plenty of food and grazing, but which was also very damp, with the result that he lost a number of the animals. He next introduced the goats into a drier area, but here his efforts were unsuccessful, because the goats suffered a great deal from eating the flowers of *Tephrosia candida*. He now had a number of half-bred animals, which were better acclimatised to the district. On the whole, goat raising had not been a success possibly due to climatic conditions. He thought that they would do better on sandy soils, as was proved by the experience of Mr. W. M. Rajapakse of Goluwapokuna Estate, who raised the animals quite successfully and had a good market for them in Negombo.

He had no experience of poultry, but his observations led him to think that people would not take to poultry as a utility concern with confidence owing to the prevalence of poultry diseases.

He felt that cattle breeding, both for transport and dairy purposes could be made quite successful on coconut estates, if due attention was paid to it, and if planters would not consider that the only purpose that cattle served on coconut estates was to provide manure. There were great opportunities in the wet zone of raising a far superior breed of cattle than that which now existed. It required understanding and skill, which however, were easily acquired and he suggested that the work could be entrusted to conductors who had been given a training in dealing with cattle. Some one had remarked the day before that stall-fed cattle would never pay. To controvert this, there was the statement of Mr. Crawford that hundreds of kanganies on up-country estates practically raised all their cattle by stall-feeding. Unfortunately, the animals were given no exercise, with the result that they suffered in the low-country. They

were not at all hardy, could not stand the sun or walk any distance. They were also subject to tick fever which was a very serious disease among milch cows. When the animals were taken to the low-country young, though they sometimes developed a mild form of tick fever, they gradually became acclimatised for the rest of their lives. As regards rearing a high class of dairy cattle, the speaker said that he had attempted to cross Freisian imported stud bulls with Scind cows from up-country, the reason being that Indian cows which were a very poor breed when compared to the British breeds evolved for milk purposes, but if crossed with Ceylon cattle of Freisian descent produced a high class of milk animals. The Freisian breed was well fitted to tropical conditions. It had a sleek coat, and could stand the tropical sun well. The males were excellent for transport whether half-bred or imported. Since 1921, the speaker said, he had only dealt with Freisian stud bulls, and now had two generations. Many difficulties had to be encountered, the chief of these being rinderpest.

Mr. Crawford himself had trouble with the disease at the Government Dairy, but he hoped with the institution of the new quarantine station rinderpest would disappear from Ceylon. With regard to red water and tick fever, if the animals were born in the low-country, there was no trouble at all. Speaking of pasturage, the speaker said that on coconut estates, there was room for improvement of the pasturage. With regard to his own estate, however two samples of pasture which he had sent to Mr. Joachim were found to be equal to the highest class of pasturage in Ceylon, and he believed that it was quite possible to maintain a high class of cattle on coconut estates with improved pasturage.

SIR MARCUS expressed his disappointment with other members of the meeting who had cattle on their own estates and had not participated in the discussion and given them the benefit of their experience. It was no use saying they kept cattle only for manure purposes. There seemed to be some misunderstanding about cattle in the Kurunegalle district, the prevalent idea being that all the cattle belonged to estates. He himself knew in the 'nineties of 800 head of cattle being grazed around Arumpola estate, all of which belonged to villagers in the neighbourhood. There was another estate of 300 acres on which were grazed 350 buffaloes belonging to villagers.