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THE IMPROVEMENT OF INDIAN CATTLE

THERE is probably no aspect of Indian agriculture which strikes even the casual observer more prominently and at the same time more painfully than the miserable condition of the cattle of the country, unless it be the thin emaciated form of the cultivator himself toiling patiently behind his equally patient team of oxen. And yet in no country is it more necessary that its cattle should be looked after better than in India, for as H.E. the Viceroy of India has observed in words that can never be forgotten "the cow and the working bullock carry on their patient backs the whole structure of Indian agriculture". The bullock supplies all the power on the farm, the ploughing, the raising of the water for irrigation, the threshing of the corn, and all the transport whether on the farm or on the roads; notwithstanding the new methods of motor transport the bullock cart still holds the field as the most important form

of locomotion in the country, and even the pack bullock has not become altogether obsolete. The cow and the buffalo between them meet the whole of the requirements of milk and milk products of this vast country, hopelessly inadequate though they are, and cattle manure still forms the most important and generally the only source of manure. The money value of the cattle power alone has been computed to be between Rs. 300 and Rs. 400 crores, the milk and milk products at about Rs. 300 crores and the manure at about Rs. 270 crores, while the total value of the livestock of India inclusive of all the uses to which they are put is said to be of the order of Rs. 1,300 crores. The cattle population itself is immense, numbering about 200,000,000 head and forming roughly about one-third of the whole world's cattle population. Despite this prodigious number and the huge money value, India's cattle

wealth is however a neglected and ill-developed asset. The bullock power, large as it is, is poor and inefficient, and is contributed by small underfed and nondescript types of animals which lack the strength and stamina necessary for working even the small indigenous ploughs and other implements, and are out of the question for the better class of implements that can otherwise be advantageously introduced. Even in the tracts where a better class of animals is seen to predominate, insufficient feed lowers their value and the vice of indiscriminate and uncontrolled breeding is bringing in progressive deterioration in the qualities associated with the respective breeds. As is the case with the bullocks so is it with the cows of the country. The milk and milk products produced, vast as they are in quantity, are supplied by an immense number of cows and buffaloes whose low record of performance is a by-word in the country-side. Large as the quantity is, moreover, it is too insufficient for average needs, especially in a country like India, whose population is largely vegetarian and has a special need in respect of dairy products which supply the accessory food elements considered indispensable for normal health. This position has long been one of grave concern, and ameliorative measures have been, and are being, taken by the provinces and states both for arresting this process of deterioration and for bringing about positive improvements. To give an idea of what these measures are we may describe in rough outline what has been done in Mysore, as this will serve as a sample more or less of what has been attempted elsewhere also.

These measures have been along three main directions, *viz.*, (1) the supply of an adequate number of breeding bulls of

approved type to all the villages and alongside of it the castration in good time of all scrub bulls in the villages, (2) increasing the fodder resources of the State, including the improvement of the village pastures, grazing facilities in the forests and the planting of trees and shrubs of fodder value, and (3) the combating of disease among cattle. In regard to the supply of breeding bulls many methods, each having its own good points are being tried. These comprise: the sale of bulls and bull calves to *bona fide* breeders at a fair upset price instead of selling them by auction; the grant of a yearly subvention to breeders keeping bulls of approved type for service; the meeting by local bodies of a moiety of the purchase price of the bulls in the case of approved breeders willing to abide by certain conditions regarding inspection, keeping of records, etc.; the sale to village panchayats of bulls and bull calves, the purchase price being generally met by the district boards and these bulls being made to roam among the village herds and not made to stand for service; these bulls are to be maintained at the cost of the village jointly and are to be changed once periodically for other bulls at Government cost, the object being to avoid inbreeding and probably lack of vigour; stationing breeding bulls in some of the veterinary hospitals and Government farms for service in the neighbourhood; the institution of itinerant bulls in which bulls are taken out on circuit to a fixed number of villages in accordance with a programme notified well ahead to the villages comprising the circuit. For ensuring an adequate supply of bulls, selected animals in the herds of Amritmahal cattle are reserved, these cattle are bred more or less under semi-wild conditions; secondly is the stock raised on the special

cattle breeding farm of the Government and thirdly are the bull calves which are reared on the ordinary farms of the department. Simultaneously with this programme the veterinary staff carries out an intensive campaign of castrating scrub bulls, which forms an important item in their work during tours. In addition to these measures of the Government are the vastly greater endeavours of the cultivators themselves in providing their villages with good bulls, naturally to be expected in a state, which has been for centuries the home of a famous and popular breed of cattle. Money prizes and medals at the numerous cattle fairs give some additional incentive in the same direction. As an all-India subject this matter of the supply of breeding bulls has gained great strength from the personal interest of H.E. the Viceroy Lord Linlithgow, who made it almost the first act of his Viceroyalty to issue an appeal to wealthy Indian gentlemen to donate breeding bulls or funds for purchasing them, to which the response was prompt and liberal. His Excellency's interest has further resulted in a series of comprehensive measures for the improvement of live-stock, organised on a permanent basis under the auspices of the Imperial Council of Agricultural Research. The outward and visible symbol of this new development is the all-India cattle show which is now being held in Delhi every year. In the years to come this show will serve both as a touchstone to the success of these measures and also as the most substantial impetus to cattle improvement. The wide advertisement given to the best Indian cattle and the consequent high prices which are bound to be obtained will certainly prove a more potent stimulus than any other specific factor. We may illustrate this by recalling that the palmiest days of the

breeders in Mysore were the years when the large cattle fairs were being visited by the agents of the Dutch East Indies who regularly made large purchases of the best animals at very high prices. Though these remarks refer to draft cattle they apply equally well to the bull as a sire in the dairy herd. An instance in this connection of which we have a vivid recollection is the case of the small holders of the Island of Jersey to whom their pedigree bulls and cows form the greatest source of income. The prices which some of these fetch fairly take one's breath away and it is no wonder that though the holding consists only of some five or six acres it enables the farmer to live in a style which a similar small farmer in India cannot even dream of. The ordinary village cow in India even when she is in milk yields too little to merit attention while the dry cow is so neglected that nothing but the owner's religious scruples prevent her from going into the hands of the butcher. She is too often such a great liability that even these scruples cannot stand the strain of her upkeep or the temptation of the butcher's offer. There is nothing that can save the situation except making the milk producing business pay, and the greatest single factor in the problem is a better type of animal. No better proof can be quoted than the fact that in many cities the local breeds of cows have been all but displaced by cross-bred animals. The development of motor bus traffic on our roads has however given a chance to the local cow, which is also bound to improve as cow keeping within city limits will eventually be given up voluntarily or by municipal enactments. Every good male calf born to her makes her position stronger, for these calves are much prized animals, and as thus her paying capacity increases so does it earn

for her better feed and attention, to which she in turn responds with a better performance. All this forms a powerful argument for better bulls and better methods of breeding in the villages so that the economic value of the cow may be increased both as the mother of valuable progeny and as the producer of more milk. In respect of the choice of the sires ryots have little information to go by, except vague hearsay accounts of the performance of individual specimens. A desirable line of development will be the formation of cattle breeding societies, the maintenance of performance records and of a pedigree register, all matters which, unfortunately under present conditions are fraught with great difficulties.

In an equal, if not greater measure, does the improvement of live-stock rest upon an improvement of the fodder resources of the country. No matter how great the improvement by breeding may be, the lack of adequate feeding will neutralise its effect, for without such feeding the improved stock will come down gradually to the level of the original stock, and may even have the disadvantage of being less fitted to withstand the rough conditions. It may be said that Indian systems of agriculture do not comprise a definite share in the rotation of crops solely intended for cattle feed, as does the British system where, for instance, from one half to three-fourths is for animal feed. Such areas as may be put down for cattle feed are either in special cases as for bullocks working at *mhotes* or for providing some amount of concentrated feed like horse-gram, but even this is a kind of left-handed affair, the roughest land being put under it and the produce in any case totally insufficient even for the working bullocks. Money crops like cotton and groundnuts have greatly increased in area

and have made further inroads into the fodder capacity of the older rotations. The steady extension of cultivation has meant a corresponding shrinkage of grazing areas. Forests are being conserved in the wider interests of the country, and forest grazing is strictly controlled. The straw, chaff, husks, pods and other by-products which the ryot has to husband carefully for the use of his working bullocks have to be drawn upon by his other animals also, insufficient as they are for the needs of the former. Barring therefore the bullocks that work at the *mhote* or at the plough or for the professional carter and the cows and buffaloes actually in milk all other cattle are left to shift for themselves and what this means on the open parched up countryside can easily be imagined. The taunt that the ryot makes *pooja* to the stone bull in the temple but neglects it in its living flesh and blood form or that he venerates his cow but does not hesitate to leave her starving may thus appear justified, superficially at least. For the six months of the year before the period of heavy rains village cattle lead a painful life of semi-starvation, and if the rains fail or come late they are unequal to a further strain and succumb in large numbers, if they do not meanwhile meet a speedier end at the hands of the butcher. In the cities milking animals are maintained on the minimum feed necessary, for the milkman himself is poor and has to keep both himself and his cow on the slender returns from the milk. The dry cows are indeed a problem. One shudders to think of the hundreds of these animals, which are said to be sent to the slaughter houses in Bombay after they cease to milk, however good they might have been as milkers. Apart from feelings of softness or mercy, the salvage of these animals is a matter of

economic importance in which missions of mercy and pinjrapoles of a modern type may well play an important role.

The question of providing adequate fodder resources is being studied in a comprehensive manner by the Imperial Council of Agricultural Research, thanks again to the initiative of H.E. the Viceroy. In addition, the various states and provinces have bestowed a great deal of attention on it and taken measures both of a permanent character and more especially of an emergency kind to cope with wide-spread fodder scarcity and distress which unfortunately are of too common occurrence. First among the fodder sources come the village grazing grounds and the improvement of these grounds has engaged a great deal of attention. It has been found next to impossible to devise a practical scheme for converting them into good grass areas as long as the common ownership continues. The land will have to be fenced, ploughed and put under grass and the grazing carried out under strict control in a proper rotation, all the labour being provided or paid for by the villagers. The difficulties are all but insuperable and though several schemes can be considered the joint ownership will always remain the chief, if not, the sole obstacle. If, however, village autonomy should become powerful enough to enforce co-operative action in this matter then there is considerable scope for this form of improvement; after all joint action of this kind is not new in our villages and the village topes or groves affording at once both restful shade and a moderate money return are even now a standing proof that effective joint action is possible; many other forms of co-operative effort can easily be cited. But under present conditions when individual freedom is put before the needs of the

community these grounds can serve as nothing more than mere exercising space for the village cattle during the crop season; as a matter of fact they are being fast reduced to this rôle, because in response to clamour for arable land parcels of pasture lands are gradually being given over for cultivation, leaving only the minimum required by the rules. It should be possible however for Governments to take up and improve large stretches of waste land and develop them as pastures in the manner described. Unpromising as these waste lands may appear in their present state, what can be effected on them is demonstrated by the forest plantations called "maidan" plantations in Mysore. In addition to the tree growth in these plantations grass grows abundantly forming a good source of income. We have heard from a late head of the forest department that the income from grass has paid for the maintenance of these plantations. The very fencing and the protection thereby afforded have a striking effect on the grass growth. These areas form veritable oases in the midst of the parched up country-side and an increase in their number is a desirable step. Trees of fodder value can be substituted for the ordinary fuel trees and these should greatly add to their fodder value. In a cattle country of great importance it will be also well to set apart large areas of forest land in the moister sections of the country and develop them with an eye to their grazing and fodder value, so that during seasons of acute fodder distress, the best cattle—the foundation stock, as it were—of the country may be sent away to these havens and saved. The conservation of forest grass by annual cutting and storage as hay will also have to be undertaken. No doubt all this will cost money and not all of them may be

considered necessary in ordinary years, but they have to be looked upon as a measure of insurance, justified by the importance of the cattle industry and the magnitude of the loss which results when a serious fodder famine sets in. In the long run, however, the ryot will have to face the fact, that the only remedy lies in his growing crops solely intended for fodder as part of his ordinary farming; suitable adjustments will have to be made, cattle may have to be reduced in number, and replaced by better ones, leguminous fodder will have to be grown, animals will have to be penned or tethered and grazed and farm wastes more carefully conserved. Much encouragement by Government will have to be given in the channel-fed areas for the raising of fodder crops. The subject of mixed farming will have to receive more attention and methods suited to different tracts worked out and popularised.

We now come to the third leg of this tripod on which the improvement of the live-stock industry rests, *viz.*, the prevention and cure of diseases, especially the great cattle epidemics. This is a matter which needs no emphasis, but we may point out that one at least of the reasons why too many cattle are kept is the ryot's anxiety to guard against the depletion by disease. Rinderpest, the most dreaded of the epidemics, is sometimes partial to the larger and better class of cattle and the death of such animals brings a legacy of debt which it takes years for the owner to work out. By the wiping out of the products of good breeding the work itself receives a serious set-back. Fortunately we have in the new methods of serum treatment an almost infallible method of preventing rinderpest and to a lesser degree, the other diseases

also, and it is now only a question of extending the treatment over the whole country. Research in animal diseases is now receiving great attention and before long suitable remedies may be forthcoming for other diseases as well, so that we may consider that this great obstacle has been overcome.

There is one other method of cattle improvement usually considered in this connection, *viz.*, the subject of cross breeding with the humpless cattle of Europe. This has been undertaken in India and very striking increases in the milk yield have been obtained. Both in the military dairy farms and in the Palace dairy farm in Mysore remarkable results have been attained and among city dairymen the cross-breds are exceedingly popular. For quick results among dairy cattle the method has no equal and, with proper safeguards against disease, is full of promise. Its field of limited application and the need for great precaution and control to prevent indiscriminate breaking of the type of the local cattle and the fact that it is still of an experimental character have lessened its importance.

It cannot be too strongly emphasised in conclusion that the greatest impetus to cattle improvement can come only by making it remunerative. Make the industry pay and the rest will follow automatically. The larger the custom and the higher the prices for our cattle, the greater the stimulus and the better will they be looked after. Nor need we fear that any large sale of cattle to foreign markets would endanger the permanent interests of the industry and that ryots will in view of immediate profits deplete their stocks.

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