

SOME ASPECTS OF THE PRESENT CATTLE SITUATION IN INDIA.

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There is much confusion in thought even among enlightened people in India concerning the cattle problem, though cattle generally enter into the life of the people to a much greater degree in India than in most countries, due largely to religious sentiment.

Compared with the productivity of the country there is a very large population of cattle, the majority of which are of an exceedingly low grade. The great majority are of such quality that nowhere else in the world would they be allowed to exist. Cattle-rearing is largely divorced from agriculture, and this, along with the general uncertainty of rainfall, accounts for the low standard of fertility which is found over the greater part of India. There are sufficient exceptions to show what can be done with better feeding and better selection.

Probably some of the better types of cattle which still survive are the result of the breeding and feeding by itinerant graziers. Such breeds as the Red Karachi, the Sahiwal and the Gir have been evolved by tribes which were separated from other parts of the country by natural circumstances and promiscuous crossing was thus obviated.

Newspaper correspondents, public leaders etc., frequently have got a general idea that present conditions are hopelessly bad, and in this they are right, but they are generally far from right in their so-called facts and in their proposed methods of improving conditions.

Usually the Government is blamed for curtailing the grazing grounds. The Forest department is blamed for preventing the promiscuous trespass of village cattle through reserved jungle land. The Government is blamed for allowing the export of cattle and sometimes for permitting any cattle to be killed at all. It is perfectly correct to state that a number of ancient grazing tracts are now no longer available. Some of these areas have been turned into fertile agricultural centres by means of irrigation canals, but although the agricultural prosperity of the tract is increased, cattle rearing in many of the canal irrigation areas is very backward.

The average Indian village supports a large number of inferior types of cattle of all sizes and shapes. During the day these cattle are herded on the usually very restricted grazing grounds. Frequently the male animals of all conditions run with the herd and no castration is done. During the monsoon and for some months after, the grass grows rapidly and there is plenty of food; later on during the cold weather and during the dry hot weather, conditions get worse and worse until the cattle are emaciated. Some of the cows in milk get extra feed and so do also the bullocks which are used for carting and well work. Seldom are fodder crops grown, and the roughage if obtainable, consists of dried stalks of jowar (sorghum) etc., and rice straw. Under these conditions good animal cannot be produced and it is their inherited hardiness which enables them to survive.

An engineer with experience of India lecturing in England recently recommends the general introduction of small oil-engine plants for lifting water in wells for cultivation. He suggested that these plants would set free several million bullocks and their food. It is difficult to reconcile this opinion to existing facts. This mass of animals would simply be added to the existing hordes.

One of the greatest obstacles in the way of introduction of improved animal-draught agricultural implements into India is that implements, owing to the inferiority of the draught animals, have got to be cut down to so low a level that they cease to be economical.

A certain amount of improvement can be effected by slow public education in the use of leguminous fodder crops as catch crops for grazing between the staple crops. Where irrigation is available this is an immediate possibility of the greatest value, but in tracts where the monsoon is variable or generally deficient, this procedure has not the same possibilities.

Plate 14 (omitted) is a photograph of cattle found in a *pinjrapole* in North Bihar. This *pinjrapole* is supported by public charity; it is well run and is possibly more efficient than the usual *pinjrapole*. The contrast is brought out between cattle which are probably better fed than usual in India as against cattle which are properly fed and treated on the government farm at Pusa. At Pusa the cattle are fed from the proceeds of a self-contained area of land; no grain is brought from outside.

It is obvious that if religious sentiment requires the retention of a vast number of useless animals, then India has to pay a very heavy price for the privilege, and the price reacts on all sections of the community and is one of the factors which keeps the average cultivator but little above the starvation limit.

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SCIENCE AND LEADERSHIP.

Some instruction in science is now provided at most of the secondary schools in Great Britain. Such instruction, in the case of the boys schools, usually takes the form of an introduction to chemistry and physic while in girls' schools botany and chemistry are frequently the only branches of science taught. For various reasons, which have so often been the subject of reference in these columns that they need not be repeated now, those pupils who show any aptitude for science are mostly led for the last two years at school to tread the path of specialisation on their journey to universities. They arrive at the universities embryo chemists, physicists, or botanists, where they are hatched out as full-fledged specialists destined to act as guides to others along the same narrow paths, or to apply their specialised knowledge to industry or in one or other of the public services. Only the comparatively few forsake the paths of specialisation and find scope in leadership and control for the exercise of the particular qualities of mind engendered by the study of science.

The demand for early specialisation in science is as vicious in principle and as harmful in its effects as the demand for any form of early vocational training for the children of the less favoured classes of the community. The revolt against the old fashioned classical education was successful because the teaching of the classics had become so socialised that the main object of the study was obscured. It encouraged the worst forms of pedantry; it was de-humanised. There is abundant evidence that the teaching of science is suffering from the same disease. The spirit of science, the systematic observation of facts, the conception of hypotheses, to be discarded if they cannot be verified over a complete range of observations, or enunciated as universal if they stand such test constant challenge to established precedents and authority, is apt to be obscured by a mass of technical trivialities which passes for