

VETERINARY SCIENCE AND ANIMAL HUSBANDRY IN INDIA: A CASE STUDY OF INDIAN VETERINARY RESEARCH INSTITUTE AT MUKTESWAR-IZATNAGAR

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Agriculture has been the mainstay of life in India and India has been one of the largest repositories of cattle population in the world. Yet, little work has been done on the social history of her agricultural sciences, more so of the veterinary science and animal husbandry. This paper is, therefore, a modest attempt to fill in this gap. It deals particularly with the developments in the field of veterinary science and animal husbandry, focused on the Imperial Veterinary Research Institute (IVRI), Mukteswar-Izatnagar, in the erstwhile United Provinces. Interestingly, Veterinary science was amongst the few areas, like medical science, in which the British took special interest. However, their policy in the matter was selective and incongruous, and confined mostly to those aspects of the subject concerned with the military needs, even though animal was the main source of energy used in agricultural sector in India and India possessed 31% of the cattle population of the world at the time of Independence. After Independence of the country in 1947, the IVRY underwent a fundamental change in many ways; but it could not be rejuvenated with the spirit of a work culture desired of a major national research centre. Why and how? We would try to go into the history of the institute under the colonial setup as well as after Independence. This paper is just a preliminary inquiry into the subject, and it does not claim to be exhaustive.

Key words: Veterinary science, Animal husbandry, Imperial Veterinary Research Institute (IVRI), Mukteswar-Izatnagar, Animal nutrition, Animal diseases.

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INTRODUCTION

Although agriculture has been the mainstay of life in India and India has been one of the largest repositories of cattle population in the world, little work has been done on the social history of agricultural sciences, including veterinary science and animal husbandry, in the country. This paper is, therefore, a modest attempt to fill in this gap. It seeks to examine the developments in the field of veterinary science and animal husbandry in India, with reference to the Imperial Veterinary Research Institute (IVRI) based at Mukteswar-Izatnagar, in the erstwhile United Provinces and the present Uttar Pradesh. Interestingly, Veterinary science was amongst the few areas, like medical science, in which the British took special interest. However, in medical science, their interest was confined essentially to its application to the health of the armed forces and the European population living in the country, and public health in general was grossly neglected almost till the end of their rule in the country. Likewise, even if agriculture was the mainstay of life in India, the colonial policy in the matter was selective and incongruous. For example, instead of giving importance to food production, the British prioritised commercial crops. In the same way, they showed interest mostly in those aspects of veterinary science and animal husbandry that catered to their military needs, even though India possessed 31% of the cattle population of the world at the time of Independence.¹

The outbreak of epidemics and famines, the two World Wars and the freedom struggle in India influenced the colonial policies in the matter. After Independence of the country in 1947, the IVRY underwent a fundamental change in many ways. Now it was renamed the Indian Veterinary Research Institute and was controlled by the national government of free India under its own administrative setup, and its priorities changed.

This paper will try to find out how did the IVRI function under the colonial rule and what were its priorities and achievements, and who were its real beneficiaries. In view of the colonial past, we have many perspectives to look from: Why was the IVRI located at Mukteswar? What was the level and nature of research carried out there? Where did the research at the IVRI stand in the overall ambit of agricultural research in the country? What was its impact on the local society? And what changes have occurred in the nature, activities and status of the IVRI since Independence? We would also try to know how and why the original establishment at Mukteswar gradually went into oblivion and its branch at

Izatnagar became the main centre of activities. However, mine is just a preliminary inquiry into the subject, and it does not claim to be exhaustive.

ORIGINS AND EARLY GROWTH OF THE IVRI

Veterinary work on modern lines was started as early as 1774. Thomas Moorcroft, the first man to have qualified as MRCVS was sent out from Britain for services in India. The earliest concern was the health and breeding of the horses, which were needed for cavalry in the army. But in a predominantly agricultural economy of India, cattle were important for both the farmers and the rulers. However, despite their massive population, their health was in bad condition. Often they were afflicted with epidemics and endemic diseases. After a cattle plague visited the country, a Cattle Plague Commission was appointed in 1869 and efforts were made in the provinces to improve their health and deal with their diseases. As a result, Civil Veterinary Departments were created in the provinces in 1889, and for the training of the staff, veterinary colleges were started at Babugarh (1877), Lahore (1882), Bombay (1890), Madras and Calcutta (1993).²

A systematic investigation of the diseases of the animals in India began in 1889/90 (?), when Dr Alfred Lingard was appointed Imperial Bacteriologist at the College of Science at Poona, for the investigation of surra in horses and camels. But the climate of Poona was not favourable for bacteriological research and for the manufacture of vaccines and sera. So, Mukteswar, 21 kms southeast of Almora, was selected for locating the Imperial Bacteriological Laboratory. The shift to Mukteswar took place in 1893, and work in a modest way was started in 1895.³ Situated at the height of 7,620 feet in the foothills of the Himalayas, Mukteswar's cool climate throughout the year was suitable for the preservation of vaccines and sera. Moreover, its remoteness attracted Lingard as a suitable research site. Its large forest surrounding acted as a natural barrier against the spread of disease from the experimental site herds to the cattle of the village nearby.⁴

In 1896, Professor Koch, along with his associates, visited Mukteswar and demonstrated his bile method of inoculation. He had been to South Africa on the same mission. On his arrival in India, he declared that the disease known as rinderpest in South Africa and the cattle plague in India were one and the same. Therefore, during the next few years, rinderpest and the preparation of a potent serum were the principal interest of the laboratory. With the discovery of this serum, the scale of operations rapidly extended.

A temporary stoppage was caused by the destruction of the laboratory by fire in 1899. So, a new one was built and a branch laboratory was opened at Bareilly, so that research might be carried on during the winter months. In the first decade of the last century, a site of about 800 acres was acquired at Izatnagar, on the outskirts of Bareilly for the purpose.⁵ The Izatnagar laboratory was enlarged considerably so that the manufacture of anti-rinderpest and other sera could go on all the year round.

Between 1901 and 1904, the IVRI took up the preparation of sera for anthrax and haemorrhagic septicaemia, of black-quarter vaccine and mullein (the test for glanders).⁶ Though founded as a laboratory for investigating the diseases of Indian domestic animals and medicines for their control, the scope of the IVRI was gradually widened to include all animal diseases that occurred in India (whether of bacterial, virus or parasitic origin), the study of animal nutrition and genetics, and even the economic problems concerned with marketing of the products of animal husbandry.⁷

A Serum Research Institute had been started at Izatnagar in 1901, to which was later added the Biological Products Section, the Animal Nutrition Section, the Poultry Research Section and a Department of Genetics was contemplated.⁸

IVRI AFTER THE FIRST WORLD WAR

As indicated above, the Izatnagar Branch of the VRI had come into existence with the objective of conducting research on all aspects of veterinary science and animal husbandry with direct and indirect bearing on the conservation and augmentation of animal health and productivity. A more specialised body on dairying was constituted in the Dairy Research Institute at Karnal, in 1923,⁹ and the imperial Institute of animal husbandry and dairying at Bangalore.

The most significant achievement of the IVRI was the development of an anti-rinderpest vaccine, which made cattle breeding economically viable. In 1939, its scientists developed a vaccine for the fatal Ranikhet disease, affecting poultry. Both these vaccines changed the scene of animal husbandry in the country.¹⁰ As rinderpest was the most prevalent disease in India, the main work of the Mukteswar Laboratory was the manufacture of anti-rinderpest serum. The Mukteswar serum was so popular that demands for it came from the Straits Settlements, Egypt and Rhodesia.¹¹

Entomology

As the IVRI progressed, it focused on entomology. In 1917, the first meeting of the veterinary officers held at Lahore accepted a proposal for the creation of a joint organisation to deal exclusively with problem of medical and veterinary entomology. The question came up again at their second meeting at Calcutta in 1923. There, it was resolved that the staff of the Imperial Entomologist at the Imperial Agricultural Research Institute, Pusa, in Bihar, should be strengthened adequately to assist the investigators into the insect problems connected with animal diseases, and similar facilities should be provided to the Imperial Entomologist or to the Zoological Survey of India for the study of ticks and mites connected with animal diseases. The services of S.K. Sen who was then working with the Imperial Entomologist at Pusa and T. Bainbridge Fletcher, were obtained on deputation (1923-26) to Mukteswar to assist in the investigation on the transmission of rinderpest by insects which was the being actively pursued by J.T. Edwards then, and results of which were published by Sen in 1926. The importance of insects as vectors and parasites causing direct damage to the health of animals and to animal products, e.g., hides and skins, thus came to the forefront and a post of entomologist was created at Mukteswar Institute and S.K. Sen was appointed against it in 1933. Now animal entomology came to be included as a compulsory discipline in the veterinary colleges in the country.¹²

Animal Nutrition

The first organised attempt to study animal nutrition was made in 1921 by the creation of a Physiological Chemists Section at the Imperial Agricultural Research Institute at Pusa, which was transferred after two years to Bangalore where it formed a wing of the Imperial Institute of Animal Husbandry and Dairying. Almost simultaneously, work on this subject was begun at the Agricultural College at Layallpur, and a little later (1926) at the Agricultural Research Institute at Coimbatore, and still later, at the agricultural laboratories at Dacca. But the research at these centres was confined mainly to the question of feed in relation to the productive capacity of the animals.¹³

But the problems of malnutrition in relation to the health of animals was studied at the IVRI, from 1930, in close collaboration with the Military Department, as also with the various provincial workers; and valuable information was obtained regarding the nutritional disorders of animals in different parts of the country and the method of their prevention.¹⁴

Initially, the VRI remained concerned mainly with the curative aspects of the animal diseases for several decades—almost up to the 1930s. It was around this time that the Institute, like many other organisations in the country, showed interest in the prophylactic aspect of the diseases and animal health. It was due not to any shift in the colonial policy towards a welfare approach in India; rather reasons were something else: First, thanks to the constitution of the League of Nations and similar humanitarian bodies with international concern, by now there was fast growing awareness about the health and welfare of the people of the world, and thus, about their health, food, nutrition. This, in turn, created interest in the health and productivity of the domestic animals. Second, the rise of nationalism and introduction of provincial autonomy after 1935 in India brought in the forefront the welfare of the local population, hence, health, food, agriculture, animal husbandry and the like.¹⁵ It may be recalled that this was the period when the colonial government showed interest in public health and problems of nutrition in the country. Yet, all these efforts were, to an extent, a forced and half-hearted endeavour so far as the colonial initiative was concerned.¹⁶

The Royal Commission on Agriculture had discussed the problem of poultry rearing at length. In February 1938, the Institute of Poultry Research was established at Izatnagar. Necessary facilities were provided for research to be carried out on poultry diseases, nutrition, physiology, breeding, and on marketing and processing of eggs and canning of the dressed poultry. In addition, an extensive farm on 40 acres of land was provided. The military Poultry Farm in the vicinity, erected as a wartime measure to increase poultry supplies to the Defence Department, was later amalgamated with the Institute Farm in 1946. Training courses and research programmes on all aspects of poultry science were taken up actively and many students trained.¹⁷

There were five veterinary colleges in India on the eve of the second world war: one each in Madras, Bombay, Bengal, Punjab and Bihar.

ACTIVITIES OF IVRI DURING THE SECOND WORLD WAR

The veterinary research received a great boost during the Second World War. From the point of view of scientific development, the official attention and encouragement to animal husbandry and veterinary sciences was much impressive. Besides their routine work (which was, of course, disrupted during the war), the institute dealing with animal husbandry at Bangalore and the Imperial Veterinary

Research Institute (IVRI) at Mukteswar and Izatnagar carried out wide-ranging activities involving R&D to cater to the war needs. This included the study of diseases, development and production of vaccines, acclimatization and high breeding.¹⁸ In spite of the strain caused by the war on financial and human resources, the work of the IVRI continued to be diversified.

This, as also the future needs, created the necessity of additional staff. Realising its importance, the Central Government showed keen interest in the matter and a plan for post-war reconstruction were considered necessary.¹⁹ Gradually, a shift occurred in the nature and scope of the work of the IVRI. The fact that the government evinced interest in veterinary sciences is evident also from the volume of financial allocation for it. Despite its limited scope of work, the IVRI received a larger financial grant (Rs.10.75 lakhs in 1944) annually than the Imperial Agricultural Research Institute (Rs. 8.5 lakhs for the same period)²⁰, which had a far wider scope of work and activities. This may be attributed to the overriding government concern for military demands for animal food (milk, butter, meat, eggs, etc.), animals for transportation (horses and camels) and wool and leather. In order to boost dairy production, the government established an Imperial Dairy Research Institute in 1941.²¹ As the demand for milk for the armed forces increased tremendously, milk supply to big towns became a problem. To meet with the situation, the government decided to entrust the distribution of milk in metropolitan cities like Calcutta, Bombay, Madras, Delhi, Karachi, Kanpur and Nagpur to properly constituted milk marketing organizations. A Milk Marketing Adviser to the Government of India was appointed and the Chief Executive Officer of the British Milk Marketing Board, R.A. Pepperall, was selected for the post. He conducted a detailed survey and made elaborate recommendations. More administrative measures followed, which, in turn, invited the attention of the provincial governments to the matter.²² All this clearly implied precedence of this subject over the core sector of agriculture —farm production — and its allied aspects including rural development, about which government policy in the past had always been hesitant and evasive.

In retrospect, given the size and population—human and animal—of the country, the colonial initiative in agricultural research and research in allied areas like animal health and nutrition was inadequate. Although the colonial government gave more attention to veterinary science and animal husbandry in comparison to core sector agriculture, its priorities there, too, were not all in tune with the local

needs. IVRI's operations were confined essentially to the curative aspects of the diseases, and emphasis on prophylactic measures almost did not engage the official attention until the Second World War. And the significantly enhanced activities of the IVRI during the Second World War was, once again, not to cater to the health problems of the people and animals of the country; rather, it was to meet with the urgent requirements of the armed forces at the time.

Nevertheless, the question of India's agricultural improvement could not be postponed forever. As the war lingered and food situation deteriorated and the material life of millions depending on rural economy did not show any signs of improvement,²³ the colonial government, now in a more compromising and yielding mood,²⁴ was obliged to pay more attention to the subject. For, apart from the local demands and immediate needs, India's economic stability and material wellbeing was vital for Britain's own position in the post-war world, whether India continued as a part of the Empire or parted with it. So, like many other areas, the government started looking at the question of agricultural improvement in the broader perspective of the post-war reconstruction.

IVRI AFTER INDEPENDENCE

In retrospect, the history of the IVRI is a mixed story. The gradual decay of the institute at Mukteswar and rise of Izatnagar, especially since Independence, calls for deeper study. Even before 1947, Mukteswar had started losing its importance. Its remoteness and geographical isolation apart, it was, in fact meeting with the same fate as many other organisations engaged in primary research, like the great Surveys and the Imperial Agricultural Research Institute at Pusa, once the scientific needs of the Empire declined and the growing nationalism in India made its prospects bleak.

But what happened after Independence? The scenario is slightly different. The complex problems of the 1930s and 40s had induced an indifference to basic research amongst most Indians. Once the mission of freedom was over, pettier things progressively occupied the minds that mattered. Despite the call of Nehru for modern science and many an achievement in the field, vicious game of power politics gradually permeated the scientific organisations, too. Already, the British had infected them with communalism and regionalism; nepotism, regionalism and political favour added to them after Independence. In the craze for nationalism and Swadeshi, many old heritages of the colonial past were outright rejected, or left to languish uncared for. The Mukteswar institute was probably one of them.

Commenting on the past and present of the IVRI, Seema Qasim wrote in the *Times of India*, in 1989:

'Today, the remnants of a glorious past [of the IVRI at Mukteswar] can be seen everywhere on the campus. From the quaint 19th century animal weighing machines, and nearly 100-year-old disused cold storage rooms...to old fashioned laboratories.... It is easy to picture the devoted scientist of another time, living solitary lives...and developing vaccines that changed the face of veterinary science, especially in the field of virology....

However, despite such an illustrious background, this historical institution now seems to be on the verge of drawing its final breath.'²⁵

The station-in-charge Dr R.P. Bansal of the IVRI remembered to Qasim the gradual decline of the institute during 27 years of his service. According to him, the scientists did not like to serve at Mukteswar (understandably due to its remoteness and the associated social problems) and there was political pressure regarding transfers. As a result, there were only 13 scientists against the sanctioned post of 47, in 1989. He observed that several laboratories were locked, some were 'barely surviving due to the unavailability of manpower', and out of the annual budget of 1.6 crore, 1.2 crore was paid as staff salary. He believed that the institute could be developed as a centre of excellence in virology 'provided we have the political and administrative will.'²⁶

CONCLUSIONS

In retrospect, the history of the IVRI is a mixed story. The gradual decay of the institute at Mukteswar and rise of Izatnagar, especially since Independence, calls for deeper study. Even before 1947, Mukteswar had started losing its importance. This was largely because its prime concern was to cater to the needs of the armed forces—the health of the animals used by them, to look after the quality of their animal food (meat, egg, butter) and so on. Deflected approach and flawed priorities of the research organisations were a common problem throughout the colonial rule, for there was a vast difference between the interests and needs of the colonisers and that of the local population. Ironically, the perception of the national government has not changed much as far as the health and productivity of the country's animal population is concerned. This is, to an extent, due also to the official wavering in deciding the national priorities—industry or agriculture—and model of national progress—Western Model, Gandhian Model or something else?

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