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AGRICULTURAL SCIENCE EDUCATION AND CONTEMPORARY AGRARIAN SOCIETY IN BENGAL PRESIDENCY (1852-1924)

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RESEARCH ARTICLE

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Abstract

The late nineteenth century witnessed a trend of new experiments in the agricultural sector in the Bengal Presidency. In comparison with other sectors, it was agriculture where the British paid attention after a long time in India. They realised the need and importance of agricultural education among the people to introduce sophisticated technologies for the betterment of agricultural production. Although the colonial authority attempted to improve this sector for its interests, diverse positive effects were also apparent. Various policies were adopted at different times to promote agricultural education in the Bengal Presidency. One of the objectives of this agricultural education was to create indigenous workers for educated farmers and the agriculture department. Agricultural education had an immense impact on the farming society of the contemporary period.

Along with government initiatives, some indigenous upper-class people came forward to improve agriculture through agricultural education. A literate class, trained in scientific agricultural education, was established, which began writing articles on various contemporary Bengali newspapers and journals on agricultural matters. This likely contributed to building agricultural awareness among the general public and also formed a separate section involved in agriculture, albeit indirectly. This paper aims to explore the complex process of change in agriculture and agrarian society throughout the nineteenth and early twentieth centuries in the Bengal Presidency.

Keywords: *Agricultural Education, Bengal Presidency, Colonial Policy, Agrarian Society, Scientific Agriculture*

The British Government in India was perhaps the largest estate holder in the world and its sole beneficiary. The Indian subcontinent, being a former British colony, had witnessed continuous alterations in almost every sector, including agriculture. An age-old agricultural-based geographical territory naturally drew British attention to modify the traditional way of farming and the cultivation process, which would also benefit the authority. However, attention towards agriculture and other related issues was given much later than to other fields. Even so, it ignored any scientific instruction in agriculture for a very long time. The Bengal Presidency was one of those regions that received few significant changes regarding the commencement of agricultural education and Government policies. The present discussion will begin with the preliminary stage of agricultural education at the school level, which started in 1852 at the Barasat District School. This initiation was significant in the history of agricultural science in India and, over time, became increasingly imperative due to social changes. Over time, many deviations and variations emerged, but the most drastic change, which was more visible, was the introduction of the Punjab Line policy in 1924. The focus shifted towards practical education, complementing the existing formal institutional education in agriculture. A common trend was introduced to include a piece of land with each institution, making students practically familiar with contemporary agricultural conditions and enabling them to conduct additional experiments. It would be meaningful to conclude this dialogue with a detailed discussion of the new approach to policy implementation and its effects on the indigenous society.

The British Government did not take any special developmental steps to improve India's agriculture until the 18th century. The experimental measures adopted by the government in the late 18th and 19th centuries were primarily related to land revenue collection. The permanent settlement eliminated the chance for extra land income beyond the government's fixed revenue. Consequently, the government deemed it not its duty to enhance agriculture. Conversely, due to the landlords' lack of goodwill, both agriculture and farmers suffered. The Company did practically nothing in this regard, and when the Crown took over, a few hopes were raised.[1] According to European scholars, agriculture in pre-colonial Bengal was undeveloped, unscientific and superstitious. They believed that the agriculture of this country improved after the arrival of the British.[2] Indians, in general, were described as 'superstitious', 'unscientific' and 'barbaric'. Indian technology was described as backwards and primitive. Even the sympathisers with Indian culture and heritage considered Asians as 'mere children' in scientific pursuits vis-à-vis the

West.[3] The development of agriculture means the development of farmers, who are directly related to the agricultural sector. It was thought that the poor, uneducated, superstitious peasants of this country would prosper only when the light of education penetrated among them. What was the agricultural education policy, and what kind of agricultural education system was introduced by the British government to improve agriculture, as well as the welfare of farmers? How much of the peasantry was influenced and benefited by this education is a matter of discussion.

Initial initiatives to promote agricultural education

In the early stages, the British Government made no efforts to engage or instruct rural farmers about agricultural education. On March 16 1847, the government accepted the proposal of the Horticultural Committee of the Agricultural Society to teach gardeners.[4] Instead of directly educating farmers, the government contemplated opening schools to educate gardeners. The government arranged for schools to be opened to educate the peasants. It was hoped that the gardeners would return to the village after their education and inculcate their interest in agriculture and horticulture among the ordinary villagers. However, after receiving an education, these gardeners were unwilling to leave the city and go to the village to teach ordinary farmers.[5] To solve the problem, the society decided to appeal to the zamindars to bring students from the mofussil to impart agricultural education. To encourage students from rural areas to pursue agricultural education, it was decided that they would be awarded a certificate upon completion of their education, be assigned a branch garden under the society, and receive a monthly salary of Rs. 30-35.[6] However, not many students were willing to take up gardening as a livelihood.[7] On July 3 1847, another school was opened for the education of the boys of gardeners. Dr. McClelland of the Botanic Gardens led this initiative on behalf of the government. However, the same problem persisted.[8]

In 1851-52, Dr. F. J. Moyett (DPI of Bengal) proposed the establishment of agricultural schools. These schools would include farms, providing students with practical experience. Additionally, district schools would be set up to complement this educational approach. The goal was to offer students a combination of theoretical knowledge and hands-on learning in agriculture.[9] An agricultural school was established alongside the Barasat district school in November 1852, as per Dr. Moyett's proposal.[10] The school started with 50 students. Babu Parichiran Sarkar was the headmaster of the school.[11] In September 1853, Babu Kalikrishna Mitra visited the school for the first time to examine the students. Out of 50 students, 5 gave excellent answers, 9 gave average answers, and 5 gave fair answers. However, within a few days, the decision not to pursue agriculture as a profession led to discouragement among the students, and the school gradually closed down. A lack of suitable books can also be blamed for the school's closure.[12]

In August 1864, the Director of Education wrote to the British India Association and the Landholders Association, asking two questions about agricultural education –

a) Would it be of any benefit to the country and the ten to educate the peasants in scientific methods of farming?
b) Whether a special class can take up agriculture as a profession or improve their property if they are given the necessary elementary education?[13]

According to the Landholders' Association, the removal of superstitions related to agriculture required training for talukdars, traders, artisans, etc. They held rights over land and possessed the power to invest in it. Once these individuals were trained in improved cultivation methods, farmers would eventually come to understand the benefits of the new system and adopt it.[14] The secretary of the British India Association recommended integrating agricultural education into general education. In a letter dated August 20 1864, to the Agricultural and Horticultural Society, Mr. W.S. Atkinson, the Director of Education, inquired –

a) Is it possible to teach agricultural science to the people of the country only through the scientific method in that situation?
b) Whether there is any class that can think of agricultural science for raising property or taking up farming as a profession.
c) Whether these classes of people would benefit from oral discourse only.[15]

The Director of Education expressed reluctance to answer the questions. Consequently, the proposal for separate schools for agricultural education was dropped. This decision was made because it was not the right time to impart agricultural education in India. Additionally, there was a shortage of suitable people for the initiative. On March 2 1867, Mr. John Stalkert submitted a plan for agricultural education to the Secretary of Bengal. In the plan, he proposed encouraging zamindars to improve the land. Stalkert emphasised that the zamindars would pay special attention to the enhancement of cultivation. For the development of the estate, experienced agriculturists should be appointed. These experts would explain to the zamindars and encourage them to establish farms in every village. The zamindars would then provide the necessary funds for the farms and encourage the farmers in various ways to engage in agriculture.[16] A committee consisting of Mr. S. H. Robinson, Babu Jayakrishna Mukherjee, Ramanath Tagore, Haruchandra Ghosh, Parichad Mitra, and Mr. John Stalkert was formed to decide on this matter. This committee recommended hands-on agricultural education by setting up farms in the headquarters town or near colleges in each district. On the recommendation of this committee, the Lieutenant Governor of Bengal established 7 model farms, which were destroyed by famine in 1874.[17]

To impart agricultural education, the government considered setting up primary schools to provide education. Teaching agriculture at the elementary level did not require a large team of agronomists or many books. The primary requirement for teaching children at the primary level was to introduce them to the natural world. Hands-on learning in nature will increase students' interest in learning. On the initiative of Lord Halifax, the British Government focused on general education in 1854.

After 10 years, the government shifted its focus to agricultural development in the country.[18] On January 16 1866, Eden Sahib asked Harimohan Mukherjee to give a plan for imparting agricultural education in teacher-training schools in Bengal. In response to that, the plan that Babu Harimohan Mukherjee gave to Eden Sahib on February 26 1867. The main points were as follows –

a) Since there is no separate institution for agricultural instruction, there is a need to establish separate colleges or schools dedicated to this purpose.
b) Firstly, it is necessary to establish a separate teachers' organisation in teacher training schools in Calcutta, Hooghly, and Dhaka to impart agricultural education.
c) There shall be provision of education for all, and teaching shall be in Bengali.
d) Subjects of education shall be Botany, Agriculture, Chemistry, and Horticulture.
e) A scholarship of Rs. 4 will be given to encourage at least 10 students in this school. Scholarships will be awarded only to meritorious students who come to study at an agricultural college with genuine motivation and a strong academic background. Rs 120 will be spent monthly in this sector.
f) When the students become teachers, they shall be employed at a monthly salary of Rs. 20. Their job is not only to teach in village schools, but they also advise local agriculturists when needed.
g) The Royal Botanic Gardens shall supply the necessary seeds and seedlings.
h) The book will be in Bengali and will cover two separate subjects: Agricultural Chemistry and Botany.[19]

If we look at this from the perspective of India, we will see that in the 1860s, the Landholders' Association and the British Indian Association repeatedly requested such education.[20] However, the officials paid only lip service and were profuse in their regrets. The Government of India had long considered setting up an Agriculture Department and decided to form a separate one in Bengal. In 1871, the Department of Agriculture was established in India, and 1881, a separate Department of Agriculture was introduced in the Bengal Presidency under a British officer. The early attempts to promote agricultural education in Bengal yielded only modest results. Upon closer examination, some key issues become evident. Firstly, the government failed to effectively reach the farmers, who were the primary beneficiaries of agricultural education for the development of agriculture in Bengal. The majority of farmers in Bengal and India were illiterate, making it difficult for them to understand the government's initiatives.

The First Famine Commission of 1880 recommended the creation of agricultural directorships in all provinces. The Famine Commission proposed theoretical training for probationers. This training would be tested through an examination. Subsequently, practical training would be provided to a select few at an agricultural college, funded by the government. However, they remained largely haphazard, and none of them gained much acceptance. At the invitation of the Government, Dr J. A. Voelcker, the agricultural chemist to the Royal Agricultural Society of England, visited India in 1889. This visit marked the first endeavour to organise agricultural research in India. The Agriculture Conference of October 1893 resolved. It stated that universities should recognise the science of agriculture.

Additionally, scientific agriculture should be included among the subjects for the examination for entry into such departments. The recommendations of the Agricultural Conference were warmly received by both the government and private associations. These placed a greater emphasis on agricultural education and research.

Meanwhile, the Government of Bengal took action. They created two special scholarships of £200 a year. These scholarships were intended to be held for two and a half years by science graduates of the University of Calcutta at the Royal Agricultural College, Cirencester. The aim was to have a team of experts as a prelude to the establishment of colleges and schools that would incorporate, as far as possible or desirable, Eastern practices into the established results of Western research.[21] It was a significant step, taken by a local government rather than the Government of India. This experiment did not turn out to be a success. A few Cirencester scholars diverted their attention to legal and other studies. The Bengal Government issued warnings.[22] The scholars themselves felt unhappy when, upon coming home, they found they could get nothing more than deputy collectorships. So, in 1887, the government decided to discontinue the scholarship.

The colonial government had a specific intent. They aimed to advance agricultural practices nationwide. To achieve this, they dispatched indigenous youths overseas. The purpose was for these youths to acquire contemporary agricultural knowledge. However, when the youths returned to their country after completing their education, the government faced reluctance to appoint them to suitable fields and positions simply because they were Indian. This situation, however, was nothing new for Indians—the act of being deprived despite being qualified created resentment among these youth. In response, the British Government decided to stop this scholarship. The decision to stop the scholarship was perceived as the only solution to the problem by the colonial government. According to eminent historian Prof. Deepak Kumar, "This was an extreme step, akin to chopping the head off as a remedy for headache."[23] The government's decision to discontinue the scholarship program was rooted in a political strategy aimed at preempting potential unrest among educated Indian youth who had been deprived of this opportunity, reflecting a calculated move to quell burgeoning discontent at its inception.

Until then, there were no special agricultural schools under any department, not even under the Department of Agriculture in the Bengal presidency. Sir Alfred Woodly Croft, who was the Director of the Department of Public Instruction for the Government of Bengal, conveyed to the Secretary (General Department) that the eleven Cirencester graduates in Bengal were deemed sufficient for the province under the immediate circumstances. If the education of these eleven were practical in agriculture, it would subsequently produce a large number of agriculturally educated students. Meanwhile, the government felt that the

agricultural knowledge of the students who had already returned from Cirencester after receiving agricultural education had been instrumental. Among them, Mr. Sen served as a member of the Statutory Civil Service for several years, and Syed Sakhaet Hussain as Deputy Collector. Both were involved in land and agricultural research. The remaining three were engaged in temporary public service. Mr. Mukherjee was appointed to inquire into smallpox. DL Roy and A.K. Roy were engaged in settlement work in the Central Provinces. Among the other two, Mr. G.C. Bose was appointed as Deputy Collector of the Bengal Government. After receiving agricultural education abroad, even though they worked under the government, the freedom they had to express their own opinions in various agricultural journals marked their independent status.[24]

The government realised that it was not possible for the agriculture department to make progress in this regard if no organisation took up agricultural education and training. It was not easy to get the message of agricultural improvement to the lower classes of agriculturists without some educated and trained representatives. There was a need for someone who could sympathise with the agriculturists and become their representative. Those who participated in agricultural education and training in Bengal, as believed by the government, to enhance agriculture, included government employees employed in the agricultural department. Also, there were sons of zamindars or representatives of zamindars, along with peasants willing to undergo training, and so on.[25] However, Bengalis were more inclined towards government jobs than their forefathers had been towards traditional agriculture as a profession. The peasantry did not attach much importance to agricultural education because they believed that it would make their children lazy. The report of the Sub-Inspector of Schools in 1886-87 revealed that the interest of the peasant community in agricultural education was diminishing day by day.[26]

Determining the Policy of Agricultural Education

In 1889, the Secretary of State sent Dr. J.W. Voelcker to India to guide the application of agricultural chemistry and improve farming practices, marking the first serious step toward a research-based agricultural policy suited to Indian conditions. To utilise his advice, the Government of India convened a Directors of Agriculture Conference in October 1890, debating whether agricultural education should begin at the grassroots or the higher level. J.A. Buck supported starting with basic crop knowledge for financial reasons, though he preferred establishing advanced colleges in India rather than abroad.[27] In contrast, H.F. Clogstoun of Madras argued for starting at the top, training experts first.[28] The conference recommended integrating higher agricultural education into existing institutions and recognising scientifically trained personnel in related departments.[29]

A follow-up conference in 1893 again endorsed Buck's gradual approach, with the government deciding in 1894 to introduce elementary agriculture into primary schools rather than creating separate institutions.[30] Until 1897, the view remained that specialised agricultural colleges should serve all India, but provinces pushed for their own, citing the value of revenue service training. This led to the March 20, 1897, resolution proposing four colleges in Madras, Bombay, Calcutta, and northern India.[31]

Starting of Agriculture Classes at Shibpur Engineering College

Teaching science and technology to the peasantry to improve agriculture was pointless unless it provided tangible benefits in terms of increased production. Therefore, practical education was needed to impart appropriate education to the peasantry. In the winter of 1896, an agricultural conference was held in Calcutta. The following decisions were taken for the improvement of agriculture there, namely: (a) restructuring of primary and secondary agricultural education curriculum; (b) to provide agricultural education in Shibpur Engineering College and (c) to create some posts for persons educated in agricultural education in the Government service. The Government of Bengal approved these decisions and appealed to the Government of India to provide agricultural education in Shibpur.[32] The agricultural classes began at Shibpur Engineering College in 1899. The objective of opening the Agricultural College at Shibpur was to establish an experimental agricultural laboratory. Scientific experiments in agriculture would be conducted in this laboratory.

Additionally, an experimental farm was established where students could learn by directly participating in agricultural fieldwork.[33] Ten thousand rupees were to be allocated by the government, and it was decided to appoint professors for Rs. 300 per month to conduct agricultural education classes at the Shibpur Engineering College.[34] With the consent of the Government of India, agricultural education was organised at the Shibpur Engineering College in June 1898, and education began in July of that year.[35] Most of the students who passed in 1899 went on to join the government service. Out of 17 in the higher class, 2 Deputy Collectors and 6 Fertiliser Deputy Collectors, 2 joined the posts of Agricultural Science teachers in Dhaka and Hooghly Training Schools. Some of them were appointed to the zamindari of Maharaja Manindra Chandra of Kashimbazar, Nawab Bahadur of Murshidabad, Maharaja of Mayurbhanj, Kumar Bajendrakishore Raichoudhury of Gouripur, and Madhusudan Dag of Cuttack.[36] Some students from Shivpur Agricultural School were sent to Cornell University in America to receive modern scientific agricultural education. The four students sent there in 1905 all returned in 1907. On their return, one of them joined the Department of Agriculture, East Bengal and Assam, while the other three joined the Provincial Agricultural College. Mr. H.L. Dutta became the Supervisor of Field Experiments for the school, Mr. A.C. Ghosh the Assistant Botanist, and Mr. S.N. Seal the Assistant Professor of Agriculture.[37]

The Beginnings of Science Education and the Emergence of Agricultural Education as a Separate Field

The actual 'breakthrough' in agricultural education occurred during Lord Curzon's tenure when, in 1905, the Government of India decided to allocate Rs 2 million annually to support the advancement of agricultural research, demonstration, and education. Following this decision, two distinguished agricultural institutes were established in the Bengal Presidency: the Imperial Agricultural Research Institute (IARI) and the Sabour Agricultural College. The Imperial Agricultural Research Institute (1905)

was inaugurated at Pusa in the Tirhut district of north Bihar. In his opening address, Lord Curzon expressed optimism that Pusa would evolve into the focal point for agricultural research activities and education, benefiting the entire country and attracting the finest talents from both India and abroad.[38] Pusa was tasked with formulating solutions to agrarian problems that would enhance British imperial power on the subcontinent. Pusa's position about the provincial agricultural colleges was that of a higher teaching institution. Its main objective was to enable students to qualify for appointments in the specialised branches of agricultural science in India and neighbouring colonies through postgraduate courses of the highest possible standard.

Facilities similar to those available to European students were to be made available to Indians who wished to enter the Indian Agricultural Service. Voelcker thought that instead of the natives being sent to foreign countries, they should be trained, instead, in their local agricultural colleges. It was the only institution in India where facilities for higher education in all branches of agricultural science were available.[39] Agricultural education at the primary level was also provided in the early days at Pusa. Students at this level will be taught practical lessons in botany, entomology, chemistry, geology, and agriculture, among other subjects. In 1910-11, it appears that about 20 students were educated in this category.[40] In Pusa, efforts were initiated to promote agricultural research, experimentation, demonstration, and education. The research approach adhered to a top-down diffusionist model, and this perspective was evident in the composition of its student body. As no scholarships were provided, the students primarily consisted of sons from absentee landlords, middle-class urban residents, or individuals nominated by the local government, as opposed to those directly involved in farming. The recipients of agricultural education often mistook it for any other form of education where physical engagement in the field was not necessary.[41] These agricultural colleges were out of reach for peasants' sons, as negligible financial assistance was provided, and the medium of instruction was English, not the vernacular. It was believed that Indian languages were incapable of supplying the desired words or phrases needed to teach the methods of the West.

In summary, the adoption of English science created a gap, moving away from easily understandable local education for peasants. Financial challenges and the English language further discriminated against peasants' sons from receiving an education. Pusa faced no opposition in selecting English as the medium for instruction and research, despite the aim to modernise local peasants who communicated in vernacular languages. The British intended to facilitate the diffusion of knowledge, favouring accessibility for the English-educated affluent class to Western knowledge.

Agricultural education and research at the provincial level were also started in the Bengal presidency with the opening of an agricultural college at Sabour (at the outskirts of Bhagalpur). The government had approved Sabour Agricultural College with a grant of Rs 3.5 lakhs in the year 1904–1905. The college was founded on August 17 1908, by Sir Andrew Henderson Leith Fraser, Lt-Governor of Bengal.[42] J. Byrne, a civil servant, proposed that the primary purpose of the college was, firstly, to furnish a suitably trained agency for conducting the propaganda of the recently established Department of Agriculture. Next, it aimed to serve as a research station for addressing problems arising from the province's agricultural conditions. At Sabour Agricultural College, classes were opened in November 1910,[43] under E. J. Woodhouse, its first principal.

The college aimed to offer advanced agricultural education through the establishment of a laboratory and botanical garden. Students, with a minimum age of 21, would be selected through an entrance examination. Upon completion of the course in college, a degree known as 'Ag.' (Licentiate in Agriculture) It was decided to be awarded.[44] The college imparted instruction in subjects of practical interest to agriculture, including practical farm work, which involved the actual cultivation of crops.[45] The college offered a three-year diploma course in agriculture to prepare students for employment in the Agricultural Sector.[46] The Government of Bengal decided that the course at Sabour College must stand on its merit.

The college kept revising the course structure. For instance, a revised two-year course began in June 1916. The Sabour College farm (started as a central farm) was a later addition to the college.[47] Though it was a provincial-level agriculture college, residents of Bihar and Orissa did not enrol in Sabour College in significant numbers. Even after Bihar separated from Bengal and the Bengal Agricultural Department cadre was filled, reducing the course to two years failed to attract students. This approach did not yield high-quality recruits, and the outcomes did not justify the expenses of maintaining the college. In 1921, a committee recommended the reorganisation of the department and, unanimously, the closure of Sabour Agricultural College. Following this recommendation, the Government of Bihar and Orissa decided to abolish the college, which was subsequently closed in 1924.[48] This college closed due to low demand for advanced agricultural education in the province.[49] After the college closed, the building was used to house the office of the Director of Agriculture, which had been relocated from Patna.

Revival and Reformation of Agricultural Education in Schools

In 1881, the Government of India recognised that no real improvement in agriculture could be expected through general education unless the village people were educated and able to make real improvements in agriculture.[50] Training was organised in Cuttack agricultural fields from 1907 to train the sons of Bengali farmers, where they regularly learned manual labour in agriculture.[51] Following the Agricultural Conference held in Shimla in 1901, arrangements were made to provide agricultural education in select districts and collegiate schools in Bengal. The schools are Cuttack Collegiate School, Gaya Zilla School, Dumrao High School, Hazaribagh Zilla School, and Burdwan Municipal School.[52] In 1907, the Director of Public Instruction in Bengal requested the Deputy Director of Agriculture, F. Smith, to create a practical syllabus for agricultural classes in selected Zila and High Schools. The new syllabus and teaching instructions were sent to all schools and are now in use. Earlier, classes were too theoretical, with students memorising complex information they could not understand, such as names, percentages, technical terms, and topics like the action of nitrifying bacteria. The focus in agricultural classes should be on training students to

independently observe and use reasoning in understanding plant life, rather than memorising technical terms and statistical information. However, conveying this concept to current agricultural instructors has proven to be quite challenging.[53] In connection with these classes, the whole question of Agricultural Education was considered at a conference held between officers of this Department and the Education Department in April last. It was pointed out that agricultural classes attached to schools are of no value as a preparation for the Agricultural College at Sabour, and are not calculated to turn out boys fit for employment in the Agricultural service without further training.[54] After the establishment of Sabour Agricultural College in 1910, these schools in Bengal were closed.

The first Agricultural Middle School was established in the Bombay Presidency in 1910 to give special training to farmers' children in agricultural matters. In 1916, the conference on agriculture held in Simla under the chairmanship of Sir Claude Hill called for such schools to be established in every province.[55] This proposal was made more consciously and forcefully at the 1917 meeting of the Board of Agriculture at Pusa. In this meeting, the board suggested that there is a significant demand for secondary schools to manage agriculture more effectively, and that some agricultural secondary schools should be established on an experimental basis in certain provinces. Following Bombay, such schools were established in Madras, Bengal, and the Central Provinces, respectively. In the session held at Shimla on June 18 1917, the resolutions passed on agricultural education stated that

a) Trained agricultural teachers shall be provided in every province to impart agricultural education in schools.
b) Considerable importance should be given to the training of those who will participate in teaching in schools.
c) The session decided that the earlier proposal to provide education in colleges along with training schools would be cancelled. It was decided that farmers would be trained in agricultural schools.
d) The session recommended that one or more Secondary Agricultural Schools be established in each village of the district adjacent to the experimental agricultural field.
e) Emphasis is placed on practical education, and it was stated that each school shall provide experimental agricultural education with a plot of land, unless an experimental agricultural field is already attached to the school.
f) Separate Agricultural Colleges will be opened soon in every province of India to promote agricultural development. The sanctioning of These Colleges will be done by local governments, taking into account regional conditions.
g) In Secondary Schools, students were encouraged to pursue agricultural education, and it was said that those who returned with an agricultural education would be appointed to a subordinate position in the Department of Agriculture.
h) Primary school textbooks were being adopted according to the needs of the village environment and people. The books may be revised by the Department of Agriculture, or a special syllabus may be prepared.
i) All in the session agreed that emphasis on experimental farming and primitive methods would be the fastest way to reach the uneducated classes.[56]

A school was opened in Dacca on January 15 1920, for agricultural education in the vernacular language, and it was contemplated to open a school in Chinsura as well.[57] These schools were known as vocational schools and were also referred to as agricultural middle schools. The purpose of establishing these schools was to provide agricultural education to the children of farmers, along with other subjects, and to send pupils back to their land to cultivate it better. The secondary agricultural school at Chinsura was closed in February 1924 on the recommendation of the Retrenchment Committee; however, the sister school at Dacca was retained and converted to a Secondary School.[58] Secondary schools that offered technical education also provided practical agricultural training, in addition to general education, for up to three years. The purpose of these schools was to educate the boys and send them back to their homelands, where they could prosper in agriculture. Deciding to pay Rs. 10 per month for accommodation and education, even though the number of places in Bengal is less.[59] For the first time in Bengal, 1,000 students have applied for school admission, hoping that the government will provide them with jobs after completing their education this year. However, when they were disappointed, it was observed that the number of students had reduced to 22.[60] According to Mr. J.A. Ritchie, the number of agricultural secondary schools in Bengal in 1924-25 was one.[61] While other provinces focused on vocational schools (middle school), Punjab stood out by integrating agriculture into the curriculum of regular rural middle schools. This approach involved combining classroom instruction with hands-on practical work in various agricultural processes on the land. It was known as the 'Punjab line'. Bengal Presidency adopted the 'Punjab Line' for agricultural education, similar to other provinces. In late 1924, the Bengal Presidency started following the agricultural education approach established by Punjab,[62] leading to a shift in how agricultural education was provided in the region.

Conclusion

After a detailed discussion on British initiatives to introduce institutional agricultural education and various experimental activities aimed at enhancing the quality of agricultural procedures in India, a few positive consequences were overlooked, without which the comprehensive history of agricultural science and education in the Bengal Presidency would be incomplete. Interestingly, the Bengali intelligentsia, like other science educators, became involved in this new venture of scientific growth in agriculture in the late nineteenth and early twentieth centuries. Apart from government efforts, some indigenous initiatives are now emerging, and we recognise that the contribution of educated individuals to a country's overall development is undeniable. The colonial government tried to improve agriculture in this country through these educated communities at the primary level. Several educated individuals from Bengal played a significant role in disseminating agricultural education, refining its methods, and increasing awareness among the public about modern agricultural techniques. Rabindranath Tagore's name certainly comes first in this context. Rabindranath, in the early days of his zamindari, made great efforts to improve agriculture in Shilaidah and

received great honour from the people of Shilaidah for his welfare work.[63] In 1914, the agricultural economist LK Elmersot joined Sriniketan and in 1922, started a separate academic department called 'Rural Development'. This department promotes rural development and reconstruction as well as agricultural work.[64] Rabindranath Tagore organised agricultural education in Sriniketan with the help of trained farmers from Japan.[65] He said that to improve the agricultural fields and the livelihoods of village farmers, educated members of society should come forward, focusing on the education of the farmers' children and the enhancement of agricultural practices.[66] Tagore's efforts in expanding agricultural education or improving agriculture cannot be overstated. Another Indian who became a devotee of agricultural growth was Zamindar Jayakrishna Mukherjee. Makhla Peasant Boy's School was established in 1863 under the initiative of the Uttarpara Hitkari Sabha, which he founded. However, Makhla Peasant Boys' School, situated in the nearby village of Makhla, Uttarpara, had a noble objective of teaching farmers' sons subjects such as agriculture, soil science, and botany at the elementary school level. The school initially had 12 students, which later increased to 40. However, from the second year, fewer farmers were interested in admitting students, which eventually led to the school's closure after about a year of operation.[67] In 1864, Jaykrishna Mukherjee wrote a letter to the then Secretary of Bengal expressing his interest in introducing the subject of Agricultural Science in Uttarpara College and providing some funds for its maintenance. His proposal was not accepted.[68] Another unforgettable initiative came from Girish Chandra Bose, who played a significant role in spreading agricultural education. He was sent by the colonial Government to Cirencester College in 1882 with a scholarship to study agriculture.[69] Upon his return, he continued to write about the problems of domestic agriculture and their solutions, as well as the need for agricultural education in India, in various newspapers. Advocating for science-based agricultural education in the Agricultural Gazette, he proceeded to establish an agricultural educational institution, similar to Cirencester. Girish Chandra Bose's primary objective in establishing Bangabasi College was to prevent Indians from seeking agricultural education abroad.[70] Although it was not possible to keep the agriculture department of Bangvasi College alive in the end, his efforts were remarkable.

Agriculture for the colonial state was viewed through the lens of economic botany, and the large-scale experiments in scientific and technological institution building were guided by the belief that pre-colonial India lacked significant scientific and technological traditions. This perspective influenced colonial policies and agricultural interventions, contributing to the introduction of Western scientific methods and practices in the Indian context.[71] The introduction of this agricultural education in the Bengal Presidency had another positive impact on society. Although there was no formal agricultural education, the native people were not lacking in knowledge about agriculture. However, the colonial government recognised the need for a science-based agriculture in this country to increase production levels and alleviate the physical labour of farmers. The Famine Commission report itself said that there is a need to introduce science-based agricultural knowledge in the country. Despite being an agriculture-based country, the work of agriculture was often considered menial or farming work. Therefore, the upper-class and caste people generally stayed away from this agricultural work and avoided any responsibility to improve its condition. Probably the main reason for examining agriculture in this way is the lack of awareness about agriculture and the aloofness from physical work. The situation reversed when the British Government took small but significant measures to spread scientific agricultural education through institutions and introduced a few new techniques to this field. The so-called landed aristocracy and educated Bengalees increasingly emerged from the age-old shell of non-involvement policy and became directly involved in farming activities. Gradually, several locally educated individuals took the initiative to develop agricultural work, improve, and expand agricultural education. This agricultural education may not have had a direct impact on the farming society initially, as most farmers in the country were illiterate at the time; however, it had a profound impact on the minds of this section.

The ordinary people in Bengal, on the other hand, are largely unaware of the ongoing changes and transformations in various fields, including education. The poor economic condition led them to become unthinkingly involved in physical work to maintain the household. Although modern agricultural education could not reach common farmers by breaking the net of illiteracy and overcoming the barriers of economic poverty, the efforts of the intelligentsia were to some extent able to create awareness about agriculture among them. A certain Mr. Nibaran Chowdhury wrote in the then agricultural magazine 'Krishak' that without education, people's development is not possible. Along with primary education, agricultural education is also important. According to him, the peasant community of Bengal was so ignorant that they didn't send their sons and daughters to school, even though free education was provided for their children. In his own experience, he observed the reluctance of Muslim and Namashudra community farmers in his village even to offer to bear school fees and book expenses for their children.[72] In colonial Bengal, the government attempted to improve agriculture by imparting agricultural education in schools, which was a good initiative.

Besides these positive changes, several problems were also raised, including an inadequate number of agricultural schools, a lack of suitable teachers and textbooks to impart agricultural education, the use of the English language as the medium of instruction, and, most importantly, a lack of proper earning opportunities.[73] Those who were sent abroad by the government for agricultural education, after returning home, involved themselves in the agricultural development of this country. Notable names among them are Nityagopal Mukhopadhyay and Bhupal Chandra Bose; their books on agriculture in Bengali helped the people of this country improve their agriculture. Additionally, those who returned from abroad with agricultural education began writing on various topics related to agriculture in contemporary agricultural journals, in addition to their government work. As those writings are in Bengali, ordinary people can understand them. As a result, the need for agricultural education was to some extent realised. A closer examination of the origins of agricultural practice at the institutional level reveals that Pusa was primarily a central research institution.

In contrast, the Provincial Colleges were well-suited for imparting agricultural education to government agricultural department employees. The institutionalised practice of agricultural education, which began in colonial Bengal under government initiative at the Barasat Government School in 1852, was completed around the same time with the establishment of the Pusa and Sabour Agricultural Colleges in the Bengal Presidency. Meanwhile, two agricultural schools were established in Bengal. In 1924, the only provincial agricultural college of the Bengal Presidency, 'Sabour Agricultural College', was closed down as per an official decision, along with the two agricultural schools of Bengal. The colonial government started following a new policy, 'Punjab line', for imparting agricultural education from 1924 onwards in the Bengal Presidency.

Now, the focus shifted towards practical education in agriculture. According to Punjab Line, a separate area of land was allocated to every school for practical farming experiments to enhance students' interest and experience. Despite these opportunities, a significant gap still prevailed in Bengal regarding the active involvement of the educated upper class in agricultural activities. Unlike the other science education brought by the British from the West, agricultural science could not practically involve the majority of people in farming. Most educated people either became employees of the Agricultural Department or started literary works on agriculture, but did not participate as farmers after receiving formal education. Therefore, it is very evident that several professionals emerged, but a trained section of farmers was still in need.

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