

Book Review-3

Sagnik Chakraborty, (2025), *British Banglay Krishi Bigyaner Itihas: Anusandhan O Parikhkhanirikhkha*, Kolkata, K P Bagchi & Company, 2025, pp. 346, Rs. 599. (Hardbound)

Sagnik Chakraborty's *British Banglay Krishi Bigyaner Itihas: Anusandhan O Parikhkhanirikhkha* is a major intervention in the historiography of science, agriculture and colonial Bengal. Based on a revised doctoral dissertation, this book attempts to reconstruct the history of agricultural science in Bengal under British rule through a detailed study of experimental farms, agricultural research, state policy, indigenous practices and the larger social circulation of scientific knowledge. Chakraborty's work is an important contribution to the growing scholarship on the history of science in South Asia that has moved increasingly away from narratives of metropolitan institutions and elite scientists. Chakraborty's work situates the agricultural field itself as a laboratory of colonial modernity. The monograph shows that agricultural science in colonial Bengal is not to be read as simply an imported European epistemology imposed on a passive countryside. Instead, it was the product of a complex interaction between colonial administrators, agricultural departments, local landlords, educated intermediaries, experimental farms, vernacular print culture, and the cultivators themselves.

The core of the book's argument is the proposition that the history of agricultural science in colonial Bengal has been largely ignored, despite the significance of agriculture to the colonial economy and despite the spread of experimental agricultural stations in the province from the late nineteenth century. Hence Chakraborty's attempt to recover a largely forgotten institutional and intellectual history, focusing on experimental farms and agricultural investigations between 1805 and 1947. The chronological framework adopted by the author is well thought out. The starting point of 1805 is linked to the suggestion of Lord Wellesley to set up an experimental agricultural establishment at Barrackpore. The ending point of 1947 is fittingly correlated with the disruption caused by decolonisation and Partition. This allows the author to track the *longue durée* trajectory of colonial agricultural science from early administrative concern to institutionalisation.

One of the great strengths of this work is its ambitious engagement with historiography. The introduction shows considerable awareness of global and Indian scholarship on the history of science and agriculture. Chakraborty places his study within the context of influential frameworks suggested by historians such as George Basalla, Roy MacLeod, Deepak Kumar, Irfan Habib and Bipasha Raha. The discussion of Basalla's model of the diffusion of Western science and

MacLeod's critique of imperial scientific structures is particularly useful as it situates the study within larger debates on colonial knowledge production. Chakraborty also thoughtfully acknowledges the limitations of previous scholarship. It is true, as the author points out, that experimental agricultural farms in Bengal, though dealt with by historians in the context of agricultural policy, agrarian economy, peasant society and agricultural education, have seldom been taken up as key historical subjects in their own right. The acknowledgement of a lacuna in the historiography gives the book a distinct intellectual justification.

The monograph is composed of six substantive chapters in addition to the introduction and conclusion. The first chapter traces the long tradition of agricultural science and technology in India before colonial rule. The author traces the progress from prehistoric agriculture and the Indus Valley Civilisation to the Vedic, mediaeval and early modern periods. The discussion emphasises indigenous irrigation systems, the selection of seeds, management of soil, plough technology, crop rotation, and the use of organic fertilisers. What is particularly interesting is the attempt to place Bengal within the larger trajectory of Indian systems of agricultural knowledge. In the process, Chakraborty effectively undermines the colonial assumption that agricultural science had only arrived in India through the intervention of Europeans. The chapter shows the presence of sophisticated practical knowledge shaped by ecological adaptation and long empirical experience in precolonial agrarian societies.

Meanwhile the first chapter is occasionally burdened with an excess of descriptive accumulation. Large sections read more like compendiums of references to ancient texts and archaeological findings than analytical historical interpretation. The narrative sometimes leaps too quickly over large stretches of time without enough questioning of the social structures that produced and transmitted agricultural knowledge. But the chapter manages to lay an important conceptual groundwork for the rest of the book. Chakraborty foregrounds indigenous agricultural traditions to provide a necessary counterpoint to the later colonial claims of scientific superiority.

The second chapter is one of the conceptual cores of the study. Here the author defines experimental agricultural farms, differentiates them from demonstration farms and analyses the larger context behind their establishment in Bengal. Chakraborty argues that British agricultural policy in Bengal evolved through several phases and was shaped by changing colonial concerns about revenue extraction, famine prevention, commercial crop production, and agrarian improvement. The treatment of administrative attitudes is particularly useful. Figures such as Lord Wellesley, Allan Octavian Hume and Lord Mayo are shown to have perceived agricultural experimentation as a means of rationalising colonial governance. The chapter highlights the role of institutions like Agri-Horticultural Society of India in promoting agricultural research and experimentation of crops.

This chapter makes an especially important contribution by focusing on institutional mechanics. Chakraborty discusses the spatial requirements, staffing patterns, soil considerations and administrative structures for experimental farms in great detail. This material dimension of agricultural science is often absent from histories that focus only on policy or ideology. The chapter thus shows how scientific agriculture depended on infrastructure, labour, finance and bureaucratic coordination. It also points to the unevenness of colonial commitment to agricultural improvement. The British state often invoked the cause of scientific progress, but actual expenditure and institutional support were patchy and subject to financial considerations.

Chapter III deals with the first phase of experimental farms in Bengal 1885-1905 with special reference to Dumraon, Burdwan and Shibpur. This is one of the better sections of the book, as it combines institutional history with regional specificity. Using extensive archival evidence on land acquisition, management practices, crop experimentation, and financial records, Chakraborty reconstructs the creation of these farms. The inclusion of tables on income and expenditure makes the study more empirical. The chapter also shows how local landed elites conducted agricultural experiments. The involvement of zamindar families complicates such simple dichotomies of colonial state and indigenous society and shows a collaborative element in the making of agricultural science.

The discussion of the Shibpur experimental farm is particularly enlightening. Chakraborty shows how the farm was a centre for technological innovation as well as a place to grow things. Experiments with ploughs, grubbers and other implements showed attempts to adapt mechanised agricultural practices to local conditions. But the author is careful not to romanticise these projects. He points to the practical limitations of many experiments and the limited diffusion of innovations into peasant agriculture. These observations add weight to the study by avoiding turning it into a celebratory tale of scientific progress.

Chapters four and five together constitute the empirical heart of the monograph. These chapters chart the spread of experimental farms in western, eastern and northern Bengal between 1905 and 1947. Chakraborty speaks of a large number of sites, such as Chinsurah, Krishnanagar, Gosaba, Bankura, Berhampore, Dacca, Rajshahi, Rangpur, Dinajpur, Malda and Cooch Behar. The geographical scope of the study is impressive. The author reconstructs the local environment, crop patterns, soils, irrigation practices and institutional histories at each experimental station.

One of the most important things about these chapters is the emphasis on the diversity of ecological regions. Chakraborty shows that colonial agricultural science in Bengal was not a single project. Different experimental farms tackled different agrarian problems depending on the climate, soil composition and commercial priorities. The experimental cultivation of jute in eastern Bengal, of sugarcane in Dacca, of tobacco and cigars in Rangpur, and of rice in other areas, reflected the ecological and economic specificity of colonial agricultural policy.

This regional approach sheds light on our understanding of colonial science as embedded in environmental contexts rather than as an abstract administrative enterprise.

The Gosaba case is important because it relates to broader histories of reclamation, environmental change, and cooperative agriculture in the Sundarbans. Chakraborty demonstrates how experimental farming in marginal ecological zones was connected to colonial ambitions of territorial expansion and productive utilisation. Similarly, the discussion of Kalimpong and northern Bengal emphasises the adaptation of agricultural research to the hill environment and plantation economy. Together these sections show the potential of experimental agriculture as a colonial tool.

The fourth and fifth chapters also focus on vernacular agency, another crucial component. Chakraborty does not portray the cultivators as mere passive recipients of scientific instruction. Instead he demonstrates that agricultural experimentation often relied on negotiations with local farmers and landlords. Of special interest is the discussion of privately established farms in Rajshahi, Natore and other districts. These initiatives show that agricultural experimentation was not the sole preserve of the colonial state. The educated agricultural enthusiasts and indigenous elites also pursued scientific cultivation with enthusiasm. This observation complicates considerably older historiographical models of colonial science as a top down imposition.

Chapter six extends the study's scope to encompass agricultural education, print culture, exhibitions, irrigation, veterinary science, and the public distribution of agricultural knowledge. This chapter manages to demonstrate that experimental farms were but one element of a broader ecosystem of agricultural science. Chakraborty's discussion of vernacular agricultural journals, textbooks and popular literature is of particular importance. Scientific ideas flowed into the Bengali public sphere through publications such as *Krishak* and *Krishitattva* outside the official institutions. Studies of agricultural fairs and exhibitions also show how science was performed and displayed before rural audiences.

This chapter also gains from its focus on education. Chakraborty maps efforts to institutionalise agricultural instruction through schools, colleges and specialised training. Here is the relation of agricultural science to social reform made clear. The Bengali educated elites began to see scientific agriculture as the key to rural regeneration and economic progress. The introduction of figures like Rabindranath Tagore bolsters the discussion by linking agricultural science to wider currents of thought around nationalist and rural reconstruction.

The book's greatest methodological strength is its extensive use of archival sources. Chakraborty draws on reports of agricultural departments, administrative proceedings, gazetteers, annual reports, vernacular periodicals and institutional records from a number of archives and libraries. Empirical research is woven throughout the work. The author is to be congratulated on

having assembled such scattered material, especially in view of the admitted difficulties of the pandemic in the course of research. The studious inclusion of tables, illustrations, maps and financial records further adds to the value of the study as a documentary record.

The book also makes a contribution to the growing field of colonial environmental history and the material history of science. Experimental farms were more than administrative institutions; they were sites where ecological knowledge, technological adaptation, and state power came together. Chakraborty shows how colonial agricultural science sought to standardise cultivation, classify soils, control seeds and raise productivity. At the same time, he exposes the limits and contradictions of these efforts. Most experiments were limited in area, funds came irregularly and there was no certainty that the peasants would accept them. Such nuances stop the narrative from becoming technologically deterministic.

The book has considerable strengths, but it is not without limitations. One ongoing problem is analytical balance. The study is extraordinarily rich in empirical detail, but at times the detail swamps interpretation. Long descriptive passages of crops, expenditures, or administrative procedures can slow the narrative momentum. A more selective approach might have allowed more space for the conceptual analysis. The book would have also done well to engage more with recent theoretical approaches in environmental history, science and technology studies, and subaltern studies. The author is familiar with major historiographical debates, but these frameworks are not always consistently integrated into the analytical structure of the chapters.

Another limitation is the treatment of peasant voices. Chakraborty consistently notes participation and resistance by cultivators. The study, however, draws heavily on official and elite sources. Hence the views of the common peasantry are often articulated indirectly in administrative documents rather than through independent vernacular evidence. This is a limitation that is admittedly hard to overcome given the nature of the archival material available, but a more sustained engagement with oral traditions, folk agricultural practices, or local memory might have enriched the social dimension of the analysis.

Crucially, Chakraborty does not portray colonial agricultural science as either wholly beneficial or wholly exploitative. Rather, it reveals a more complex historical reality. There is no doubt that colonial interests used experimental farms in their search for increased revenue, stable agrarian production and the promotion of commercially valuable crops. But they also produced knowledge that informed local agricultural practices and helped lay the institutional basis for later agricultural research in eastern India. It is very commendable that the author takes a nuanced position in the study.

The conclusion nicely synthesises the book's findings, recapitulating that agricultural experimentation was a critical but underexamined aspect of colonial governance in Bengal. Chakraborty makes a strong case for experimental farms

altering local agrarian landscapes through new crops, seeds, irrigation and technological innovations. At the same time, the author recognises structural constraints such as inadequate financing, bureaucratic inconsistency and the limited application of scientific methods by small farmers. The study is given weight by this balanced assessment.

In more general terms of historiography, the book makes three particularly important interventions. First, it places agricultural science at the centre of the intellectual and institutional history of colonial Bengal. Bengal historians have traditionally concentrated more on nationalism, literature, political economy or urban intellectual culture. Chakraborty shows that rural scientific institutions need equal attention. Secondly, it helps to de-centre the history of science, shifting focus from metropolitan laboratories and universities to agricultural fields, district stations and vernacular networks. Third, the study contributes to our understanding of science in colonial governance and its entanglement with local social formations and indigenous knowledge systems.

British Banglay Krishi Bigyaner Itihas: Anusandhan O Parikhkhanirikhkha will be of great interest to scholars of South Asian history, agrarian studies, environmental history, colonial science, and the history of technology. Drawing on a vast body of archival materials, the book reconstructs the neglected history of experimental agriculture in colonial Bengal and chronicles the development of agricultural farms, scientific investigations and institutional initiatives in different regions. This paper shows that colonial agricultural science was not only a product of the policies of the metropole but also of local ecological conditions, irrigation, soil management and interaction with cultivators. Its detailed account of experimental farms and agricultural practices makes it a valuable reference work for future researchers.

This monograph makes an important contribution to the historiography of colonial South Asia. Although the narrative occasionally drifts into the descriptive, the richness of its archival detail, regional scope, and thematic originality significantly add to its academic merit. Chakraborty does well to highlight the importance of agricultural science in colonial government and rural change in Bengal. In examining the relationship between state institutions, scientific experimentation, vernacular knowledge and agrarian society, the book opens up new possibilities for understanding the intersections of science, empire and environment. It warrants serious consideration by historians engaged with the intertwined histories of agriculture, knowledge production, and colonial modernity.

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