

Girish Chandra Bose the pioneer of Modern Agriculture Science in Bengal (1853-1939)

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Abstract: *India was one of the first and foremost country to use indigenous plants and Herbs in medicinal Horizon. There was no such mention of Agricultural science to nurture the gifts of mother nature. At the second half of 20th century there was new addition to history the history of science. Girish Chandra was one of the impeccable names whose research and contribution has changed the dimension of science in India. The founder of Bangabasi college devoted his life to research agriculture and preach science. He realised that India's development fully depends on Agricultural and Educational Development. Rather than taking jobs from Government he immersed himself making this country better.*

Key Words: Scientist, Education, Bangabasi College, Bengali, Gazette, Colonial, Agriculture.

History of science and technology was a new addition to the culture of history in the second half of twentieth century along with social, economic and political history. In view of "Colonial science" which was started from the time period of British subservient India some Bengali scientist started practicing "National Science" implementing ancient Indian heritage and science. Indian, especially the name of Bengali scientists and technologists were broadcasted long before the independence for their impeccable research and achievements. A group of Bengali scientists disclosed a new horizon to scientific research inspire of adverse conditions created by British Government. Girish Chandra Bose was one of them. The founder of Bangabasi College, Girish chandra bose was the ideal one from the illustrious group of Bengali scientists whose dynamism impacted upon the mind of people here. The pastor of Botany and biology Girish Chandra Bose started the new branch of agriculture along with general studies by his own initiatives. In the year 1770 two research institutes were founded, Botanical garden and Lyod Botanical Garden for research on natural and commercial

elements found in Darjeeling hills. Though Girish Chandra's works were favored by British government, he had an urge to conduct his own works in wellness of his country. His main objective was to the lighten up the consciousness and interest of Bengal youth towards science and technologies, to augment the production of crops to speed up the Indian economics and to establish a compact bond between agriculture and trade. He went to abroad for higher studies on agriculture but after completing his course he returned to his native land. Promoth Nath bose is considered to the first geologist of India but it was Girish Chandra Bose, who wrote book on Geography first, namely "Bhu-Tatwo". To learn more about him and his works one must peek through and analyses "Krishi Sopan", "Krishi Porichoy", "Krishi Darshan". Other than these his contribution as a member of "Indian Association for the Cultivation of Science", national enlightenment programmer and founder of Bangabasi College are severely important to discuss with the background of history.

Girish Chandra Bose belonged to the second group of early scientists of colonial Bengal, who fought hard to develop an indigenous culture in Bengal that added a new impetus to the culture of National science. Advocates of this new ethos of national science outlined the need of developing scientific research in India for the development of Indian people separated from the general initiative for scientific development of India brought in by the Britishers. Though Girish Chandra's works were favoured by British Government, he had deep urge to conduct his own works for the welfare of his countrymen. His main objective was to enlighten the youth of Bengal and to draw their interest and consciousness towards science and technologies, to establish a compact bond between agriculture and trade by augmenting the production of crops and speed up the growth of Indian economies.

Girih Chandra Bose was born on 29th October, 1853, at the tiny village of Berugram in the district of Burdwani. He was blessed to aristocratic Kayastha family, Janaki Prasad Bose, his proud father was kind at heart and had immense love for education and he had command on English language. Cultivation of education started from his early childhood. Noticing Girish Chandra's predilections towards the education, Janaki Prasad desired to send him for higher studies. His elder brother Rajballav Bose was tenderer at judge court at Hoogly, boy Girish was sent to him. He entered at Hoogly Branch School, then he was only 10. Detached from mother's lap at so early he was

not divided of tender care of his aunt. Afterwards he was indebted to his aunt for his moral righteousness, merit and exorcism, with which he was able to earn the reverence of countrymen. While staying at Hooghly he completed his college education. The meritorious results of his academic years was retrieved from University's calendar. In 1870 in entrance examination he secured 2nd division at Hooghly Branch School. In 1873 F.A examination he secured 2nd division at Hooghly College. He earned 1st class and secured 11th positions in the 1876 B.A examination from Hooghly College.ii

Mr. Woodrow, Director of Public Instruction, Bengal was attracted by the examination result of Girish Chandra. Only a few candidates had come out successfully that year, his position in order of merit having been very high. Mr. Woodrow selected him as a lecturer in Science at the Revendhaw College, Cuttack. He joined the post on February 8, 1876.iii In 1877, he was married Nirad Mahini Devi, youngest daughter of the late Pery Charan Mitra of Burdwan. Dr. Mitra was a great friend of Pandit Iswar Chandra Vidyasagar, who, Whenever he visited Burdwan, used to put up with him. Like Vidyasagar, Dr. Mitra was a great liberal and philanthropist, and wielded considerable in and around Burdwan. The marriage brought Girish Chandra into contact with two of the greatest liberals of the nineteenth century Bengal, one a social and educational reformer with a great and wide fame, the other a selfless and silent worker devoted to the service of suffering humanity. Vidyasagar played a very prominent role at the marriage which united two liberal families and mind with great potentialities for the future. Girish Chandra was then only a youth of 24.iv

At that time every year two students used to get stipend for higher studies at abroad. School inspector advised Girish Chandra to go and pursue his higher education in abroad. Then society was not so liberal to allow someone to cross "kalapani"v but still Janaki Prasad gave consent to his son for his overseas journey. He had not been the impediment in his ways of success. He reached overseas after 37 days of his journey started from India.

There he concentrated in his study at Cirencester Royal Agricultural College. What had been studied there we get clues from his one letter...

"Now a day every year two students are coming to study abroad for higher education in agronomy. People believe that Cirencester is the major in London in this subject. So the Governor of India is sending them to Cirencester....

What are the subjects that are taught in College?

Theoretical and practical, Inorganic, organic, qualitative and quantitative analysis and agricultural chemistry - from oxygen to soil formation, attribution of plants and their properties all to be done by hand not only through studying and observation. Botany ,Geology, Zoology, Veterinary, Physics, Surveying, Levelling, Real estate handling, Law and order regarding agronomy, Building construction, Strength of materials regarding construction, Journals in English.^{vi}

In the year 1882 while residing at Cirencester he qualified in the diploma exam and became the lifetime member of Royal Agricultural Society in England. He bagged the first position in this exam and remunerated of worth 50 pound. In the same year he qualified in the fellowship exam of Highland Agricultural Society and became lifetime member. With the recommendation of Chemistry professor of Agricultural College and F.C.S he was selected as the fellow of Chemical Society of England. He possessed the first position in the first annual exam in Cirencester. Student life of Girish Chandra in abroad was radiant with his numerous achievements. He has shined the prosperity of Indian students in abroad. Added a feather in his crown of success he achieved awards, worth 50 pounds for his excellence in veterinary from Lieutenant Governor. He left England in 1884, 4th July with his unthinkable success in agriculture. In his way back he visited Paris, Geneva and Italy.^{vii}

Influence of West had not affected him in his day to day life, mind, and emotions. Outlandish ideals did not make him anyone else than Bengali. He lived his life there overseas as a Bengali and he returned as he left for. His mind was filled with the thoughts regarding the well-being of mother land. He was offered with impressive job and offer by Nizam of Hyderabad as soon as returned from abroad and also another offer as deputy magistrate from the government. But he didn't accept any of them rather he surrendered his soul in making the backbone of nation through education. This is in sober fact sparse the alterability constancy, devotion to ideal, liberalism he showed by rejecting the fascination of high post in governmental job.^{viii}

He has acquired fathomless knowledge in agricultural matter from abroad, after returning here he was mercurial in employment of his wisdom in the welfare of countrymen. He was completely devoted in development of agriculture in India. Right after his return he published monthly magazine "*Agricultural Gazette*" in Bengali to make the normal people aware of various developed strait in the field of agronomy. "*Agricultural Gazette*" was first published in April 1885. At the end of each month it was published from Bangabasi Steam Press. "*Agricultural Gazette*" was far away elevated monthly than other published magazines like "*Krish-itatwo*"(1879), "*Krishi-Poddhoti*"(1883) . In the preface of first publish the editor wrote a compassionate note for farmers that is an evidence of his deep thoughts for development of agriculture. Importance of trade and industry was evident in this essay. In the independent India the well-wishers of our motherland will get direction towards the

elevation of our country.^{ix}

It is accepted worldwide that there were no other farmers with such hardship and persistence in world other than in India. They had proved themselves with legality and supreme stratagem in time to time. The hard works through which they move with half fed once a day wearing loincloth is only possible in the case of Indian farmers. But what a cubical banter! They are starving with their family, covetous for food in return of their hardship and labour. Farmers are always occupied in their land from dawn to dusk, in harsh sun, in calamitous winter and in rain but still they are unable to foster their family. They are defraying their life with everlasting starvation. Is it only few words for their tragedy of life? You are complaining of your little sweat staying under the fan and drinking chilled water, have you ever wondered about their endless sweat upon which you are claiming your aristocracy? Don't you feel ought to find the root of their misery and abolish them?^x

People say that Indian farming has gained the amplitude. If that is so why our farmers are starving? We are not ready to believe that there is nothing to learn about farming in India. If farming in India is so advanced then why is this adversity in farmers' lives?^{xi}

India's economy is totally based on agriculture; farmers are the heart of our mother land. This is really serious to think about the miserable condition of our farmers. This magazine is meant to find the remedy of this adverse condition of farmers and inhibition of their grievance. The lord, his subjects, the zamindars in other words whoever is connected with land directly or indirectly they should learn the keynotes of farming, technologies of cultivation from abroad. It is the main motto of this magazine.^{xii}

To reach the goal mentioned above we will discuss about few things here like the weakness and strong points of soil of various states, the crops which will grow sprucely in various atmosphere, the things to grow crops variously, insecticides, irrigation of soil, instruments regarding crops, the preservation of the pasture land, the correct ways to apply fertilizers and the variety fertilizers for the variation of land.^{xiii}

In addition the cattle in our country are in so pathetic condition, they are devoid of nourishment. Our farmers are ignoramus about the fact that the cattle are the major part of agriculture and they need the utmost care, nourishment, food, medical facilities, and special attention. Caring of sheep and goats for fur and flesh, horse for ploughing these subjects are to be noted. Rather than that investigation on industrial advancement, condition of crop, the knowledge about climatic changes all to be noted down here.^{xiv}

We should not be unanimous only by developing agriculture; we will try our best to draw people's attention to industry. There are so many things are manufactured in our land would have a good market in foreign market just by enhancing their quality

way a bit. We import many a thing from abroad which can be manufactured only by giving some extra effort. Will discuss on some industrial topic here in the magazine like preparation of sugar, things made from leather, clothes from cotton and jute, utensils made from clay, glass, bone china, making of matchbox and soap and so on. There is an intimate relation of industry with agriculture and Indian economy will prosper by doing prosper in both of them.^{xv}

Agriculture grows crop, industry helps it to tailor up, making it ready to use and trade comes forward to propagate them in not only our market but also in foreign market by doing import and export, by doing so trade helps both agriculture and industry to level up. Thus is the deep connection among agriculture, industry and trade.^{xvi}

Majority of our people are peasant, the crops are the base of their lives so however you want to progress it will be living upon land. If the people for whom land is the only and ultimate viatica move towards industry and trade the ponderousness upon our land will decrease. What is the base of fighting for one land if you can move on to industry and trade and feed your family the full meal? It is necessary to develop industry if you want the progress in agriculture, that's why not only about agriculture will we be discussing here also about industry and trade.^{xvii}

Tentatively all over the India there is no such agricultural magazine in which all these topics are to be discussed in simple language and ways. Finally when people have observed the prosperity through agriculture "*Agricultural Gazette*" will make up the scarcity.^{xviii}

Efficient person in field of agriculture, industry and trade are appointed as writer, most of them are excelled in their fields over the world. Their skill was nurtured by remarkable acquainted persons. This magazine will be edited by these professionals. It is to be expected that Chairperson, executes from various states in the field of agriculture undertaken by India government will participate and enrich this platform with their profound knowledge. We welcome the co-operation of people, empathetic towards our motive.^{xix}

Agricultural Gazette had to be published in both English and Bengali language in order to be presentable to all classes in society. Bengali and English version of this was priced rupees 3 and 4 respectively including all taxes.^{xx}

We have observed the editions of first two years of this magazine. The 9th edition of first year three essays written by Girish Chandra Bose was published under the name- "*the future of abroad is relying on production of wheat in India*", "*murrain of cows in India*", and 2nd edition holding another essay on "*Pisciculture*". Agronomists like Syed Shakhawat Hossain, Ambikacharan Sen, Bhupal Chandra Bose, Atul Chandra Roy, Shreeshchandra Dutta, Trailakyanath Mukhopadhyay had embellished the pages of Agricultural Gazette. Girish Chandra had special ability to present his remark in simple words and ways it was seen in his writing "*Pisciculture*". it has come to a point

now a days that scarcity of fishes is being seen but it's remedy was foretold many years before by certain astound scientist. They are still as much valuable as they were at that time. His profound essay "*Pisciculture*" has been discussed underneath "*pisciculture*"- The word is new to be heard but it is really necessary now a days. It is heard every day that breeding of fishes has been reduced to certain dangerous level. We will talk about what is this dandification of this reduction of fish breeding upon Indian economy and how it happened?^{xxi}

The quantity of fish consumption in India is way more than the quantity in other countries like Europe or in England. It's not their fancy to eat fish for Indian it is nephropathy for them to eat fish in their day to day food items. Other than Muslims the rate of people who consumes flesh are rare in India. Milk and fish are popular among other animal products. So it is clear to the point that reduction in fish breed has certainly affected Indians in their food habit.^{xxii}

How it possible was that breed of fish has been reduced to such a level to survive in this world every creature need food. What is the suitable food for fishes? To know about their food it is necessary to know about their construction.^{xxiii}

There were no chemical tests had done on fishes in India if it would have been it would be of great use, so for example we are considering the results of the tests done at abroad- they are constructed with 20% nitrogen, 8% of acidic composition, 4% of basic composition, 19% fat. So they need food of this composition only. There are some proverbs that fishes need scarce amount of food for living. Other livings rather than fishes consumes the majority of their consumption in balancing the body heat as they need more amount of food in this purpose other than nourishment and growth. Fishes don't need such. Whatever amount of food they need it is for their growth. Generally they collect their food from water bodies so if the river has more amount of sand and stones food for fishes will be shortened. And where river flooded every year there, they grow quickly as they get the right amount of food. Thus in Scotland growth of fishes are rare among them the rivers which flood over fertile land they grows fishes well other than others. If we know the amount of needed constituents underneath the water body it will be easy for us to culture the fishes. Therefore it is understood that to culture the fishes we need fertilizer, now we know the reason behind reduction in fish culture. We all know that reduction in plants directly led to scarcity of rain, this leads not only to the damage in biodiversity but also hamper the production of fishes. The state from hose point of view I'm talking about is having the river Damodar. It's origin is Ramgarh, the ways the river travels is all ways about stones so expectation breeding of fishes is really low, adding to that the origin have less amount of trees, how will they grow up, trees contain the major amount of needed amount. The pond which is regularly used will help fishes to grow out quickly because these ponds can provide sufficient amount of food.^{xxiv}

We have heard that in the metropolitan cities like Calcutta, Mumbai, Delhi their

drainage system ends in river, now question is that due to this dumping is their essential substance getting reduced? Of course not. Rather the excellence of river's fish production enhances. But I accept that if these excreta are dumped in ground, the land will be prolific. But now these excreta get mixed with water and become resource for food for fishes. That's why I suppose the estuary of Bhagirathi is teemed with fishes. Keeping this in view we can easily understand why the northern portion of Bay of Bengal is so enriched in fish.^{xxv}

There is another reason of reduction in fish; with population growth the demand of fish market has been higher. There is less consideration in fishing. Every now and then they are fishing, even the roes. When you catch a fish with roes you aren't killing only one fish rather you are killing the whole progeny. I'm not against this but still there must be some consideration.^{xxvi}

To develop agriculture in India aliquot part of students must be taught in India with far more better technology. He realized that only "*Agricultural Gazette*" would not do the whole so he commenced to build an agricultural school keeping in ideal Cirencester. It was mentioned in "*Agricultural Gazette*" (Choitra 1292) in editorial field-

"We are extremely happy to announce that a school is opening for agricultural study in Calcutta at 116 Bowbazar street from 1st may. And certain trained person from Cirencester would be at lectureship. The main purpose of this is keeping in view so that students would not have to study abroad for agriculture. They will be taught the following subjects-

Agriculture, 2. Agricultural chemistry, 3. Rural condition, 4. Botany, 5. Zoology, 6. Land survey and drawing, 7. Book keeping, 8. Rural health, 9. Veterinary"

We are biased on free exertion. We are happy to see that the school is running in free spirit, without the help of government. We are looking forward for people's support understanding the tenor of this spirit. Bangabasi launches the first agricultural school in west Bengal.^{xxvii}

In 1886, 13th may Bangabasi school published their advertisement in '*Amritbazar Patrika*' it contains the minute details of Bangabasi School-

*"THE BANGABASI SCHOOL,
Bowbazar Street, Calcutta.*

The Bangabasi school will consist of two distinct branches viz., (1) the general branch which will teach, to begin with, up to the entrance standard, (2)The agriculture branch, which is intended to supply the want of agricultural education in India. The managing board of the school has thought it expedient to substitute a 7 years course of study for the 9 years course usual in most schools in Bengal, for, in their opinion, much of the valuable time the students is wasted for want of due occupation.

There will be two terms each year-1. The dussehra term (June to November) and 2. the Basanti term (December to may). After examinations at the end of each term, liberal scholarships and prizes as well as free ships will be awarded to the deserving students in each class. The scholarships will be one of each Rs.6 each and free ships and prizes, also one each for each class. At the end of the year, a grand special prize of Rs. 50 will be awarded to the most successful students of the school. Besides, four matriculation prizes of Rs. 100, Rs. 50, Rs. 30, Rs. 20 respectively will be awarded to first four passed students of the Bangabasi School at the entrance each year, provided they pass it in the first Division.

As the teaching of English is usually very defective in the most schools of Bengal, the managing board of the Bangabasi School is very happy to have secured the services of several gentlemen who, besides being distinguished graduates of the Calcutta University, have also had the advantage of education in England. Among these are Babus Girish Chandra Bose. M.A., M.R., F.C.S., etc late professor of Attucks college, Bhupal Chandra Bose, B.A., M.R.A.C., Byomkesh Chakrabarty, M.A., M.R.A.C late professor of the Sheebpur Engineering College, A.K. Roy, M.R.A.C. etc, Aghoro Nath Chatterjee, M.R.C.P etc., the schooling fees will be Rs. 4 per mensem for the upper three classes, and Rs. 2 for the lower three but in special cases they may be reduced to one half ; admission fees the same as monthly fees. The schooling fee for the agricultural classes is Rs. 5/-.

25 students will receive free ships in the entrance class provided they prove to the satisfaction of the secretary that they deserve them and take their admission before the 1st June.”

SPECIAL NOTE- The Bangabasi School is now open for admission but classes will begin from the 1st of June. For further particulars see prospectus or apply at Bangabasi Office 34-1, Kalutola Street Calcutta.”^{xxviii}

The school was names ‘Bangabasi’ by Yogesh Chandra Bose, Girish Chandra’s cousin. Girish Chandra put all his effort in this school to run successfully, but without any help from government it became quite tough to run the school smoothly. At last the school was closed. In the year 1887 Bangabasi college was established in that same rented room where the school was going on. It shifted at college Scott lane in the year 1903. at that time the school and the college was running in parallel at last the school got detached from the college in the year 1938, 12th march at St. James Square by the Rector of the college Girish Chandra Bose.^{xxix}

Now a day Bangabasi College has become a renowned institution. Girish Chandra Bose was its principal from 1887 to 1934 and he had been its rector from 1934 to 1939. He was very much respected by the students and they were also beloved to him. At the time of partition of Bengal he had given shelter to the students actively participated in the movement.^{xxx}

After executing his vows to his utmost Girish Chandra took his last breath on 1st January 1939, then he was 86. He is no more but the parable he has set with his simple life and diligent working life, devoted to the welfare of his country is imperishable. *"keertiyoshyo so jeebati"*- he will be celestial through his works. Girish Chandra had entered into the field with well-planned outline for the development of agriculture in India. But in the end the decrease of this branch from his own institution obstructed in the development. But it was never a failure attempt because *"we would not be doing justice by judging the outward success and failure as they make the backbone of the society"*. Today in India there are so many people interested in agriculture don't you think because of Girish Chandra it has been possible? 2 years after his death on 10th August 1901 Acharya Prafulla Chandra Roy gave a speech on his character on the occasion of inauguration of marble idol of Girish Chandra, we came to know about him personally through Acharya's speech-

"My intimacy with Girish Chandra started from 1883. I has just came from edinbora and took admission in London University. There I came to meet Girish Chandra, bhupal Chandra Bose, byomkesh chakravarty who were studying at cirencester. They used to fraternize with Acharya Jagadish Chandra Bose. Late Girish Chandra is resident in people's heart with love, respect, and reverence as a scientist, professor, benefactor of students, educationist and devotee to community service. Bangabasi College is his sempiternal achievement, ardent pattern of His selfless, unabashed service for motherland. Girish Chandra Bose is celestial in Bengali history and history of modern education with his bestowal and vindication.

Some people know how great he was than his donations, we are only outsiders, we know about only a few.

Governor General, sir Alfred craft, of education department offered him a high ranked job after his return from abroad. But he declined it immediately rather he established Bangabasi College and devoted himself till his last breath in its welfare.

There was an amazing mixture of firmness and softness in his character. Many needy students have received his donation, he helped many poor family, many meritorious students had established themselves with the grace of Girish Chandra. If he is not remembered by countrymen it will be declared as a selfish race.

He has given shelter to the students who participated in movements during the partition of Bengal and other turmoil in political field. It is still remembered how courageously he announced that he will take charge of the students who are expelled due to their political activities. He has not participated in political movements but if we consider these political movements for the welfare of country, then undoubtedly he has endless contribution, be it indirectly but certainly he has.

I have an example for today's youth of his simple, diligent living. He had done all his work timely and with due respect, it was the keynote of his healthy life and positive side of his characteristics. He used to go to Maidan at dusk; I still remember those

sweet memories. Girish Chandra was a man of strong personality. He had command on his remarks, either it would be yes or no, there was no maybe. And if I state about his clothing you will wonder about him, he was graceful with his simple white shirt and dhoti. That was the level of his simplicity, though he achieved scholarship, learned at abroad, milestone of botany and zoology, master of numerous scientists and pilot of one of the most famous institution. I want lakhs of such veracious, loyal, active, demure way from luxury Bengali man, who will idolize Girish Chandra and will remit the darkness of our country. A race grows on the foundation of lives such as Girish Chandra. May his dreams pursuit success.^{xxxix}

Girish Chandra was the first agricultural scientist in India though his name was crushed under his contemporary scientists' fame and somehow M. Swaminathan is named as the starter of Agricultural science though he started his work 75 years later of Girish Chandra. One among the first Indian Stalwarts who realized India could only prosper by banishment of illiteracy and poverty. The fellow of Royal Agricultural society and Royal Geographical Society did not join any prestigious government job back in India. He devoted all his work in preparing Indian youth as he established Bangabashi College he immersed himself into educational experiments. Gilchrist awarded, Cirencester returned this obscured Bengali scientist worked seamlessly for making both India's infrastructure of agriculture and the youth of the society. Though unnamed in the pages of history of Science his contribution to our country and its agriculture is indefeasible.

ⁱ Bose, Girish Chandra, *Dictionary of National Biography*, Volume I, S. P. Sen (Ed.), Institute of National Biography, 1972, p. 212

ⁱⁱ Bandopadhyay, Brajendranath, *Sahitya Sadhak Rachitmalā*, Bangiya Sahitya Parishad, Kolkata, 1952.

ⁱⁱⁱ Bangabasi College Diamond Jubile Souvenir, Bangabasi College, 1987

^{iv} Ibid.

^v It was forbidden to commence any oversea journey in Hindu society. It was seen as a sin. Who crossed the 'Kalapani', i.e. water of the sea had to face social segregation in the then time. Bandopadhyay, Brajendranath, *Sahitya Sadhak Rachitmalā*, Bangiya Sahitya Parishad, Kolkata, 1952.

^{vi} Bandopadhyay, Brajendranath, *Sahitya Sadhak Rachitmalā*, Bangiya Sahitya Parishad, Kolkata, 1952.

^{vii} Ibid.

^{viii} Ibid.

^{ix} Ibid.

^x *Krishi Gazette Masik Patrika*, Bangabasi Press, Kolkata, April 1885.

^{xi} Ibid.

^{xii} Ibid.

^{xiii} Ibid.

^{xiv} Ibid.

^{xv} Ibid.

^{xvi} Ibid.

xvii Ibid.

xviii Ibid.

xix Ibid.

xx Bandopadhyay, Brajendranath, *Sahitya Sadhak Rachitmala*, Bangiya Sahitya Parishad, Kolkata,1952.

xxi Ibid.

xxii Ibid.

xxiii Ibid.

xxiv Ibid.

xxv Ibid.

xxvi Ibid.

xxvii *Agricultural Gazette Masik Patrika*, Bangabasi Press, Kolkata, April 1885.

xxviii *Amrita bazar Patrika*, Kolkata, May,1886

xxix Bandopadhyay, Brajendranath, *Sahitya Sadhak Rachitmala*, Bangiya Sahitya Parishad, Kolkata,1952.

xxx Ibid.

xxxi Ibid.