



TECHNICAL EDUCATION IN ODISHA DURING THE COLONIAL PERIOD

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ABSTRACT:

Prior to Delhousie's appointment as the Governor, the state of technical education in British India was abysmal. He was the only individual who adopted extensive measures to promote India's multidimensional educational system. He was profoundly influenced by Thomson's technical education plan.¹ In November 1847, Thomson established a civil engineering college in Roorkee under the leadership of Lieutenant R. Maclagen. This institution provided both theoretical and practical civil engineering instruction to English, European, and Indian students. Delhousie believed that the expanding demand for engineering expertise in public works was essential for the nation. In addition to the introduction of electric telegraph, railway, road construction, and irrigation work, civil engineers are essential. Delhousie envisioned establishing engineering schools of this sort in each province. He considered authorising the Board of Directors' financial support for this purpose.²

KEY WORDS: *Technical, education, carpentry, tailoring, industrial, institute, engineering, etc.*

Technical Schools in Odisha during the British Period

Specifically, the government of Odisha built the technical schools there. There were no private investments or pursuits in this area. They were therefore quite scarce. There had been some interest from missionaries in it. With assistance from the government, they opened the school. In Cuttack, the first technical college was founded and was called as "survey school"³. But the lack of pupils prevented this school from operating. Additionally, the idea of starting an engineering school in Odisha was continuously gaining support. In addition to the 20,000 rupee grant from the monarch of Athagad, this school was given access to 5 acres of land in the Zobra neighbourhood of Cuttack.⁴ However, this plan did not move forward further, and the Odisha School of Engineering opened its doors in 1923 with 24 students.⁵ Its quantity grew gradually. Consequently, the Odisha School of Engineering was a well-run organisation. The college had 116 students enrolled as of 1936, and the majority of those who graduated from it worked for PWD in Odisha.⁶

Aside from this, the American Baptist Mission started a boys' industrial school in Balasore in 1893. Since 1906, the government and the district board gave it money on a daily basis. On July 1, 1918, there were 75 trainees and 12 teachers. The teachers taught carpentry, ironwork, bookbinding, brick and cement work, cane work, painting, drawing, and other skills⁷ The kids came from all different religious groups and were paid each month. The school was run like a business, and everything was for sale. In the same way, the Weaving Institute in Sambalpur and the Weaving Institute in Cuttack were both started in 1909 and 1911. The kids were given money to help them out. Before, the D.P.I. was in charge of all the institutions, but later, this power was given to the Registrar of co-operative societies.⁸

In the year 1876, the Survey School was set up in Cuttack. The goal of making this school was to train young people for the poll and make it easier for them to get jobs or appointments with government agencies. At first, there were only 13 kids at the school. Two years were spent in school learning how to do things. The director of Ravenshaw College was in charge of running the school and making sure it ran well. It was Odisha's first school for technical education. Even though the school programme was set for two years, a student who wanted to get a "Amina" Certificate had to take an exam after one year.⁹

It was observed that practically all graduates from this university received appointments as amina in different locations. This organisation has shown to be fruitful. There were 41 pupils on its list at the end of 1891.¹⁰ This institution's steady growth was evident in its roll strength. There were 99 kids enrolled in the school on March 31st, 1907. 61 of the 99 students were Odia, and the remaining 38 were not. 37 of the 43 candidates who showed up for the final exam in 1907 were successful. The pay of the 25 selected individuals ranged from Rs. 15 to Rs. 80 per month. Forty students took the final survey exam in 1907–08, and 38 of the applicants passed. All of the graduates were hired by state government agencies.¹¹ Unfortunately, the school had not yet started teaching the sub-overseer course, which was hardly necessary for Odisha. However, Survey School graduates were qualified for employment as sub-overseers in the Public Works Division. as a result of the curriculum's ability to prepare students for a position as sub-overseer in the works department. The emphasis of the curriculum was on surveying, constructing roads, estimating, and arithmetic, but not on carpentry, blacksmithing, or science. Some actions were taken in 1913 to reorganise the Cuttack Survey School. First, the Amina Certificate, which was awarded to pupils following a first-year examination, was discontinued. After the two-year course's final survey standard examination, provisions were developed to issue a completion certificate. The Survey School's curriculum was revised using the Bihar School of Engineering as a guide. Therefore, certain crucial engineering equipment was bought for the institution. The Survey School's enrollment began to decline in 1914, going from 78 to 49. It was believed that the number of pupils enrolled began to fall after the school ceased awarding Amina Certificates following a first-year examination. Second, the 1892 concession made available to Survey School graduates was revoked. In addition, it was determined that the graduates were qualified to be appointed as sub-overseers for the third grade.¹²

The administrators decided to close the institution and turn Cuttack Survey School into an engineering school in order to create the necessary number of sub-overseers and overseers for the PWD department as a result of the progressive decline in the number of students enrolled. The Survey School was never turned into an engineering school, nevertheless, and no action was made right away. At that point, the Raja of Athagarh generously offered to provide Rs. 20,000 to the programme. The school was relocated from the Ravenshaw College site to a hired building between 1915 and 1916. Additionally, the school was kept under the inspector of schools' supervision rather than the Ravenshaw College principal. The upgrade of Survey School into an engineering school was highly advised by the Committee on Technical and Industrial Education. For the school, an estimate of Rs. 1,42,729/- for non-recurring head and Rs. 8,529/- for recurring head was provided. But the lack of funding made it impossible.¹³

Industrial Section in Mission Girls School, Cuttack

In 1920, Mission Girls' School established an industrial section. It was designated as a shelter. It provided instruction in creating buckets, weaving, spinning, sewing, and embroidery. In 1930, it was discovered that the institution could produce a large number of students. However, this institution began to decline in 1930. After the Industrial section of Mission Girls' School closed in 1936, industrial schools were established throughout the state. (i) Madhusudan Village Industrial Institute in Cuttack; (ii) The impoverished Cottage in Cuttack; (iii) Basanta Kumari Vidhaba Ashram in Puri; (iv) Phulbani Industrial School; (v) Angul Weaving School; and (vii) Kujaga Industrial School.¹⁴ When the Anugul Weaving School and Phulbani Industrial School were directly administered by the government, the remaining five institutions received government grants. In 1936, there were 160 students enrolled in these institutions, and the government spent Rs. 1,6581 on their behalf. Rai Bahadur B.C. Patnaik established the Odisha Poor Industry Cottage in Cuttack. This institution provided instruction in

handicrafts using locally accessible basic materials. In 1936, there were 25 students enrolled at this school. The school had (i) the Basket, Cane, and Mat section, (ii) the Weaving section, (iii) the Toy section, (iv) the Tailoring section, (v) the Eri section, and (vi) the Woman section.

In 1936-37, fourteen students from various disciplines took the final examination and all passed.¹⁵ This school began its effective burnt bricks section in 1935. The Basanti Kumari Bidhaba Ashram in Puri was administered by the Calcutta-based Saroj Nalini Association. It was a section for women only. It was essentially a boarding school that taught them handicrafts so they could earn a decent livelihood. The day scholar system was available for students. In 1936, 43 students were enrolled, and five of them passed the final exam. The government provided a grant-in-aid to the institution, as well as a stipend to 20 Odia widows of the Ashram. A private associate established the Madhusudan Village Industries Institute in Cuttack in 1936. The government provided this institution with Rs. 236,200 to maintain the school for five years. The institute had eight sections, including (i) cotton, eri-spinning; (ii) cotton, wool or silk weaving; (iii) toy making; (iv) cane and timber work; (v) paper making; (vi) oil pressing; (vii) soap making; and (viii) dyeing and painting. The duration of the course was fixed at one year. Normal school sessions ran from January to December each year. In 1937-38, 73 pupils graduated from this institution, and they all found employment with the All India Village Industries Association, the All India Spinners' Association, and various princely states.¹⁶ This institution was shut down in 1946-47 due to a continuous decline in enrollment.

Apart from this some craft schools were opened with a view to enable the villages to work during off seasons. The craft schools imparted training on jute weaving, basket making, cane work, bamboo work and eri industry. Normally they were collecting raw materials from locality. Four such type of school was opened in Cuttack district by the local generous persons.¹⁷

The Angul Survey School-1902

Angul Survey institution, founded in 1902, is the oldest technical institution still in operation. This institution was founded with the intention of teaching surveying to "Sarbarakars" in government estates. In 1907, twenty students were enrolled. In the 1907 school year, the government provided Rs. 420/- for education. Annually, this quantity was covered by primary school grant. In 1917, the register strength increased from 20 in 1912 to 37. Odisha School of Engineering was first established in Cuttack, Odisha, on 1st July 1923 as a prestigious institute. It made it possible for Odia pupils to receive technical education without leaving Odisha.¹⁸ Although Jamshedpur Engineering School was in near proximity to Odisha, only two or three applicants sought admission between 1918 and 1923; however, not a single student graduated.

The Odisha School of Engineering

With 28 students in the lower subordinate level and 20 in the artisan class, the Odisha School of Engineering got its beginnings. In 1935, 35 students were admitted to this institute, compared to 42 in 1924. Up until the Sub-overseer stage, technical education was offered at the institution initially. Candidates who want technical education up to the overseer stage were required to complete a third year of instruction in Patna. Regrettably, the Odia students balked at travelling to Patna to finish their engineering course. Consequently, it was decided to begin teaching the entire course at Cuttack Engineering School in 1926. This school's Artisan Department has demonstrated success throughout. Many students were successful in their efforts to learn carpentry, sanitary work, painting, and engine driving. In the artisan department, there were 26 students in 1923; this number rose to 75 in 1926.¹⁹ This school's work was notable since it began hiring mechanical engineering apprentices in 1925.

When the boys reached a particular level of efficiency in 1928, the institution that was in good condition was unable "to return the boys." Thus, a single diploma course took the place of the sessions for artisan and mechanical apprentices.²⁰ The school had 116 students in attendance as a whole in 1936. Additional disciplines were included at the school in 1936-1937. For the lower level civil engineering classes, these were the elementary and cadastral survey classes. The most significant technical institution in all of Odisha was undoubtedly the Odisha School of Engineering. It primarily

provided training for Civil Engineering diploma students. The examination's findings were once again satisfactory. The students' behaviour was still under control. It was encouraging to note that the majority of those who were chosen for employment in the school's two divisions received suitable positions with either local or government organisations. 160 subordinate engineers, all of whom had jobs by 1936, had graduated from the programme. But by 1936, Odisha lacked a local engineering school. 40 civil engineers often received their education from the Odisha School of Engineering. There were 57 students enrolled in the institution in 1946. In the diploma programme, there were 20 more pupils. Many students who had taken a short-term course in sub-overseers were appointed in a hurry from 1946 to 1947 when the post-war programme began.²¹ In 1941–1942, there were 142 students in total. In 1946–1947, 35 people applied for the position of civil engineer. 33 of the 35 candidates were successful. The table displays technical and vocational education for the years 1946–1947.

Table-1
Number of Technical and Vocational Institution in Odisha in 1946-47

	1941-42		1946-47	
	Number of School	Number of pupils	Number of School	Number of pupils
Engineering Schools	01	125	01	22
Industrial Schools	09	251	07	201
Commercial Schools	04	107	01	14
Grand Total	14	483	09	237

Special Commercial Schools

Some special commercial schools were attached to Cuttack Training School. All these institutions were under the direct management of government. The Commercial subjects were type writing, drafting, shorthand and book keeping. In 1936 there were 33 students in the school. Two teachers were appointed for the purpose. These subjects helped the students to get engagement in government's ministerial services. Besides that there were two unrecognized commercial institution at Cuttack. These schools had shorthand and type writing subjects.²² These schools had 20 students on the roll. However Cuttack Training School continued to cater to the need of young men for the different ministerial posts in Odisha.

Medical School, Cuttack

The Cuttack Medical institution was another technical institution that served the people of Odisha well in terms of their health and hygiene. The prestigious institution was established on February 15, 1876. This began with 38 participants. Dr. Stewart was appointed as the school's first principal. Gradually, this institution became a trustworthy and effective provider of health services for the state. In 1905, there were 130 students, six of whom were female. In addition to producing physicians for hospitals and dispensaries, this institution also produced a sufficient number of nurses. The founders' long-held ideal was realised, and the foundation for the future medical college was laid. It was the only medical institution in Odisha to offer western-style medical education to its students. It offered a four-year academic programme.²³

From 1905 to 1936, the school progressed thanks to a grant from the government. For the most up-to-date method of clinical diagnosis, the chemical laboratory, the clinical laboratory, microscopes, and other equipment were provided. Likewise, the government was responsible for the construction of buildings and the hiring of faculty. In 1930-1931, there were 164 students on the roster, including 11 women. In 1936-37, the number increased to 203, of which 20 were women. A matriculation diploma from Patna University or an equivalent qualification was required for admission to the Cuttack Medical School. Since 1913, the Bihar Odisha Medical Examination Board has administered the Cuttack Medical School examination.²⁴ Due to the gradual closure of the school, no new students were admitted to the institution in 1946-47. In 1946, thirty male students sat for the examination, of which sixteen passed

the final exam and graduated. In 1946-47, fourteen additional pupils were listed on the enrollment roster. From 1942-43 to 1946-47, the following table displays the number of successful candidates.²⁵

Table-2
The Table Shows the Number of Successful Candidates from 1942-43 to 1946-47

Year	Number appeared		Number passed	
	Male	Female	Male	Female
1942-43	44	09	27	05
1943-44	41	06	34	04
1944-45	34	05	24	04
1945-46	19	01	16	01
1946-47	16	-	16	-
Grand Total	154	21	117	14

The Post Graduate Courses of Training

A course of training was imparted to the sub-assistant surgeon and local Indian doctors owing to war conditions. 13 sub-assistant surgeons and 04 local Indian doctors completed the training. This scheme was closed in 1942-43.

Compounder Training Class

The Odisha Medical School provided a course of training for compounders and admitted the students in the batches. Only male students got admitted in the course out of which 17 passed successfully. No further admission was taken as the school was about to be abolished in 1946-1947.

The Medical Technicians Training Class

This was a new and innovative course started in October 1946 with 10 students. The government provided Rs. 15/- and stipend to them. In 1946-47 the government spent Rs. 15,954/- in this course.

Technical Education in Balasore Alalpur Technical School

In 1889, an industrial school was established in the Balasore district village of Alalpur, close to Jaleswar.²⁶ Students admitted to this institution ranged in age from 20 to 25. The school offered classes in carpentry and needlework. The students, with the assistance of their instructors, produced almirahs, boxes, and palanquins. The materials were acquired following the sale of the products. In the past, some graduates were skilled artisans. Despite the institution's usefulness, its curriculum was more akin to a workshop than an industrial education school. No student was prepared for any examinations focused on service. The school's curriculum was not developed on an organised basis.²⁷ In the annual administration report for 1896-97, the commissioner of Odisha stated, "It appears doubtful that this institution is worth preserving; unless technical schools provide education that will introduce a class of workman markedly superior to the village artisan, there is no reason for them to exist, as this standard can be reached without their assistance, as it has been in previous countries." Raising the quality of local handicrafts and encouraging the development of the artistic skills evident in the temples of Odisha would be a worthy goal, but anything short of this seems to amount to giving a pretentious name to an institute that imparts no more instruction than the village blacksmith or the local carpenters can impart as well or better.²⁸

The Balasore Technical College

In 1893, the Balasore Technical School was established. This school was administered by Baptist Missionary Reverend Gryphon, and it was founded by Baptist Mr. Ellar. In 1893, the school had 90 pupils, 65 of whom were native Christians, 18 Hindus, and 7 Muslims. The subjects taught included

woodworking and needlework. In 1990, the district received regular grants from the government, and in 1893, the Balasore district board authorised scholarships for the district's industrial training. On July 1, 1918, there were 75 trainees and 12 instructors who instructed them in carpentry, ironwork, bookbinding, brick and cement work, cane work, painting, and sketching, among other skills.²⁹ The pupils from all religious communities received training and monthly stipends.

The school was operated as a business, and every product was sold. This school was a reputable institution run along pragmatic lines. In 1920, Rs. 60,000 was invested in this institution. The inebriated lads obtained employment with favourable compensation.³⁰ During the years 1927 to 1932, the school significantly enhanced its practical and theoretical work. The school's notable accomplishment was the low-cost drilling of a large number of small tube wells and the installation of windmills on their equipment. The Balasore Industrial School was most successful in the provinces of Bihar and Odisha, where it bridged the divide between the high cost of modern methods and the widespread poverty of the population. The Balasore Training School was an effective institution for teaching woodworking, metalworking, and automobile repair. Next to it on the list of Odisha's technical institutions is the Odisha School of Engineering.

Vocational School at Balasore

Government persistently encouraged vocational training college in some schools of Balasore district.³¹ The school authorities were also interested to introduce vocational training for the sustainability of the rural youth. In 1921 schools vocational training was attached to them. Some efficient schools got special grants for the purpose.

Table-6.3
Table Shows the Number of Technical Schools Got the Government Aid in 1921

Name of the District	Name of School with Vocational Education	Nature of work done
Balasore	Narayan Chandra M.E. School	Carpentry
	Tihidi Ratnakar Sahajoga M.E. School	Agriculture
	Basta M.E. School	Tailoring
	Bagurai M.E. School	Tailoring
	Hatigarh M.E. School	Agriculture & Carpentry
Puri	Janla M.E. School	Carpentry
	Gop M.E. School	Carpentry & Cane Work
	Begunia M.E. School	Agriculture & Poultry
	Remeswar M.E. School	Weaving
	Puri Anglo-Bengali M.E. School	Tailoring
	Banapur M.E. School	Tailoring
	Bolgarh M.E. School	Weaving
Cuttack	Siddheswarpur M.E. School	Agriculture
	Cuttack Practising M.E. School	Carpentry
Sambalpur	Rampella M.E. School	Weaving
	Patnaikpara M.E. School	Carpentry
Ganjam	Municipal Odia M.E. School	Weaving
	Board Higher Elementary School, Kukudakhandi	Weaving
Khondamal	Phulbani M.E. School	Tailoring
Koraput	Aided Mission Higher Slementy School	Weaving

After the creation of Odisha Province in 1936 the head technical and vocational education was highly required. The province had 15 institutions viz. technical and vocational educational institution. The below table shows the school and student ratio in 1936-37.³²

Table-4
Table-4 Shows the Schools and Student Ratio in 1936-37

Type of Schools	1936-37		1941-42	
	Number of School	Number of pupils	Number of School	Number of pupils
Engineering Schools	01	124	01	125
Industrial Schools	10	234	09	251
Commercial Schools	01	21	04	77
Medical Schools	01	150	01	107
Law Schools 01 11	01	11	-	-
Grand Total	14	540	15	560

These schools' direct expenditures were Rs. 1,91,230 as opposed to Rs. 1,69,702. For the development of vocational and technical education in the state, the government contributed Rs. 159670 against Rs. In Odisha, numerous analogous institutions were established. Two of these schools were located in Cuttack and Sambalpur. Sambalpur's weaving school was established on an experimental premise in 1909. Its primary objective was to improve the students' training in the art of weaving for the Gandas class of professional weavers. In 1912, this institution became permanent.³³ In 1911, the Cuttack Weaving School was founded. The District Board initiated the administration of this school. Sambalpur Weaving Schools and Cuttack Weaving Schools each received a stipend of six rupees per student. In Cuttack, the government contributed four rupees and the district board paid two rupees. In Sambalpur, however, the government paid a total of Rs. 6 per student as a stipend. The institution offered instruction in practical weaving, freehand drawing, design, fabric structure, dyeing, yarn preparation, and yarn calculation.

Since September 1915, the schools remained under the supervision of the Registrar of Co-operative Societies. The curriculum was established on a six-month cycle. However, Hoogewerf, the principal of the Serampur Weaving Institute, was transferred to Odisha. He proposed extending the course from six months to a year.³⁴ Committees were responsible for the administration of the institution. In Cuttack, the Sambalpur Committee was overseen by the District Magistrate, whereas the Deputy Commissioner presided over the Sambalpur Committee. In 1916, the salaries of instructors were increased because the registrar was confident that doing so would facilitate the institution's growth. From 1912 to 1917, a total of 244 students graduated from these institutions. The school's graduating students were given 181 volumes. However, the schools ceased on January 31, 1920.³⁵

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