CHAPTER IV

Agricultural Science in Education

“We assume, as an axiom, that the wealth of this country may be enormously increased by improved methods of cultivation by the introduction of new products, and by the rational treatment and development of stock. Education is the mightiest lever that can be applied, however, great and beneficial the influence on the intelligence of the people of railways, canals, good markets and good ports and outlets for produce may be; these are necessary and helpful to agriculture as educators but they must fail to produce the greatest material progress possible, and secure that progress when attained, if the people remain ignorant and wedded to bad, often injurious methods.”

Resolutions of the Proceedings of the Agricultural Conference held in Simla, 1893.

“The advantages to be derived from a scientific knowledge of agriculture in a country where three-fourths of the people live directly thereby and the public revenues are mainly dependent thereon, cannot be denied or exaggerated, however existing short comings may be excused and excellencies in the traditional methods of culture admitted. In this matter as in any system of popular education, it is necessary at least at first, that the Government should intervene and by their example enlist the sympathy of zamindars and the well to do landholders through whom improved systems may gradually be transmitted to the lower class, of the proprietary and tenant. There are no doubt many who only need encouragement to take up agriculture as science and to learn by seeing, what they ought to do.”

Wrote in report of the Madras Board of Revenue to Government of Madras on July 23, 1870, proc. no. 5013, TNA

Science expansion in Europe in the eighteenth and nineteenth century induced agricultural revolution along with industrial revolution. Societies for promotion of science in agriculture were established. In 1840 the Royal Society of Agriculture was established with a motto of ‘practice with science.’ In 1845 an Agricultural College was opened in Cirencester, England, and laid the foundation for a formal system of education in agriculture. Formal instruction in agricultural education in India started with the arrival of British, although farmer learnt earlier informally through observation.

Farm Apprenticeship

The construction of an experimental farm at Saidapet, Madras created a necessity to obtain the trained persons in the farm to supervise the labourers. In 1868, when Robertson took over as a superintendent of the farm of Saidapet, he submitted a draft proposal for improvement in agricultural education. In a letter to Board of Revenue, Robertson remarked that literary education has robbed agriculture of her best men. On the approval from the government, six apprentices were admitted in the farm and was also sanctioned to each one of them a starting stipend of Rs.15/- per month for four years and rising of Rs.25/- per month in the fourth year. First two years of training, students were employed in training manual work in the same way as the regular field workers. At the completion of two years training, apprentices were given a regular employment. Apprentices were placed in charge of field labourers. The diversified activity prepared them fully acquainted with every kind of farm work.

As intentions gained strength to spread results of the experiments conducted in the farm at Saidapet, more farm supervisors were needed to be trained to manned the district farms through which results were to be disseminated. Accordingly Robertson proposed in his report in respect to the training offered to the apprentices, a proposal for smaller experimental farm to be established in different districts of the presidency when such farms were started they were to be provided with competent supervisors. In 1872, second batch of apprenticeship was initiated; the course of training was altered intending to provide the agency necessary for working for proposed district farms. Government orders were issued instructing the apprentices to be recruited merely from the districts of Coimbatore, Bellary and Tinnevelly where district farms were to be opened. Students to be drawn were to from

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2 Govt. of India, Department of Agriculture, Revenue and Commerce, Agricultural and Horticultural branch, July 1873, proc. No. 17-19, NAI.
classes of farmers and landowners, should be between 18 and 20 years of age and should be willing to serve the agricultural department if their services were required. During 1872 and 1873 experiencing the difficulties in finding suitable candidates, Robertson had proposed the establishment of the Central farm. He considered that the arrangements of mere field training would never fit a man to go into a new district to aid in introducing amongst its cultivators better agricultural practices. Therefore, it was contemplated that to be successful such training should be supplemented by theoretical teaching in the classroom under a definite system, which will test the progress made from month to month.\(^3\) Robertson argued that mere farm apprentices would never be able to do more than follow blindly what they had seen on the farm. Superintendents of district farm should be inquiring and observing men, ready to teach others and to explain the reasons for their methods. They must be the local authorities and pioneers of progress, and as such must be most carefully trained so as to be skilled experimentaters able to vary processes according to need.

Robertson’s ideas were derived largely from Irish system. The scheme, which he proposed, was modeled in approximate to the Irish system in which district schools and farms were organised to supply partly trained persons to the Central institution.\(^4\) His scheme was discarded for the first time by the Board of Revenue but was agreed to increase number of apprentices and one assistant superintendent post which was filled with the Benson, a Cirencester trained agriculturist. In June 1873, the Board of Revenue had changed its views in favour of Robertson’s scheme. The Board of Revenue accepted with the view that ‘if agricultural education were shown to be a means of getting money, State is bound to provide the means of agricultural education for its quasi-tenants.’

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The reasons that have influenced the Board of Revenue for agricultural college were as follows: 5 That unless systematic instruction in Agriculture and the sciences bearing on it is given at the Saidapet Farm, competent superintendents for the farms which are to be instituted can not be trained there. That without superintendents trained in this way, the experimental farms will be of little or no use. That the means for giving such a training, the lectures, the students, the opportunities for practicing what is taught and the funds are all available. That the good effect of the instruction will not be limited to a few superintendents of government farms, but will slowly leaven the agriculture of the whole country as in England, America, France and Germany.

When the Board of Revenue asked for the further modifications to be made to the proposal on the feasibility for training Programme, Robertson had resubmitted the modified proposal in which he advocated organization of a regular agricultural instruction and also urged for successively opening up of experimental farms. Robertson suggested starting an agricultural college for imparting training in agricultural sciences. 6 His scheme for a college of agriculture at Saidapet was based on the similar footing of the medical and engineering institutions. A provision was also made in this scheme for introducing agriculture subject in mofussil schools, so as to prepare their students to proceed further to Saidapet College. The scheme also contained a provision for the creation of college staff, an agricultural chemist, a botanist, and a veterinary surgeon. They were required for scientific investigation and for professional duties. Suggestions were also made for forestry and veterinary education at the Saidapet College.

5 Madras Board of Revenue Proceedings, 25 November 1873, proc. no. 2410. TNA.
First College of Agriculture: Saidapet

In 1876 the Madras government sanctioned the College of Agriculture. The object of the College of Agriculture was mentioned in the prospectus issued in the beginning by the college was that 'the institution designed to offered instruction in the science of agriculture, and in the practical application of sound principles in conducting the ordinary agriculture of the country.' The school was organized with the facilities available within the Saidapet farm for the practical education of the students. The sheds, buildings and workshops pertaining to the farm offered immediate use for the school. The farm superintendent, Robertson had acted as principal for the school. He represented to the Department of Education as far as the educational matters were concerned, and to the Board of Revenue for the working of the farm. The classes initially were conducted in a granary building within the premises of the farm. Initially the accommodation was found exclusively inconvenient and their inadequacy even prevented the admissions in 1877. Want of accommodation in the initial years remain a constant handicap to the extension of agricultural education. The problem of accommodation was solved in 1878 with a construction been completed for a chemical laboratory and temporary classroom sheds. The college was further expanded in 1880, when a permanent building for classroom use and a building for veterinary hospital were completed. They had been opened by the Governor of Madras formally in 1881.

The first batch of students consisting with a class of thirty students was admitted into the college of agriculture in October 1876. Arrangements were also made for training teachers of the Madras Normal School to attend the lectures on agriculture. The curriculum of study sanctioned originally on its establishment in 1875 consisted of subjects - Chemistry, Inorganic Chemistry,
Organic Chemistry, Agriculture, Veterinary Medicine and Anatomy, Botany, Horticulture, Drawing and Farm Book Keeping. Instruction was mainly comprised of both theory and practice. The students were expected to witness and take part in important field operations in the farm. Classes in theory comprising of different sciences pertaining to agriculture were taught by the Europeans employed in the medical college due to lack of complete staff. As full regular staff did not exist, the system of paying lecture by fee was adopted. The practical classes were handled by the assistant superintendent who was assisted by other staff members. The students worked on the farm for an hour and a half in the morning and one hour in the evening. Theory classes were held for four hours everyday except on Sunday.

Admission of the Students:

The school being the first of its kind and an experimental one, rules of the admission were liberal and flexible rather than strict and rigid. Students were not charged fee on admission to the school. The school also granted special exceptions on admission if some seats were still left unfilled and if there were applications who had not passed matriculation examination, admission was allowed to them after passing through entrance examination. English being the medium of instruction, knowledge of English was an essential qualification for entrance to the school. Applications received for admission to the school from different parts of the Madras Presidency and also from other provinces. Of the thirty students admitted in 1876, 3 from South Canara district, 3 from Coimbatore district, 3 from Chungalput district, 1 from North Arcot district, 7 from Madras district, 1 from Trichinopoly district and 9 from Bombay Presidency, 1 from Ceylon, 1 from Mysore.

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9 Ibid., Public Instruction Department, Madras, 1876-77, p. 84.
10 Ibid., Public Instruction Department, Madras, 1876-77, p. 84.
The school of agriculture came to be called Agricultural College from 1878. But owing to want of accommodation, admission of the new students were withheld during 1877. In 1878 October, new class was formed consisting of 33 students. During the summer of 1879, permission was obtained for new batch of class but very few qualified candidates were applied, reasons perhaps was the reduction in number of stipends offered from 15 to 5.\(^\text{11}\) The admission could not take place in September, it was delayed till April 1880. The summer session of 1880 College began with two classes, the senior class comprised of 24 but later 3 were dropped, and in the another class, 10 students who were newly admitted eight of them were arrived from other provinces and 2 only from Madras Presidency. In the year 1881, new classes comprising two batches were admitted; one in April and another in September under newly modified scheme. This class consisted of 26 students. In the summer session 24 senior students were obtained of whom 9 students were sent by the collectors of the district with stipends, 5 ordinary stipendiary from the college, 1 Mohammedan student, 3 free students, 2 paying students, 4 came from Mysore, 1 from Patiala.\(^\text{12}\)

In 1880, the College was transferred from the Board of Revenue to the Control of the Director of Public Instruction. During 1881-82 a new arrangement was introduced in the College a class with 26 students was started. This new scheme had connected the college of agriculture with the department of land administration. The department became the user and the college a feeder of the students for vacancies in the department. The district Collectors would nominate young revenue employees, while those nominated by the superintendents, were to be connected with Agricultural and Revenue Administration.\(^\text{13}\) This link to be established with the public service by making

\(^{11}\) Public Instruction Department, Madras, 1880-81.

\(^{12}\) Public Instruction Department, Madras, 1881-82, see also, Revenue and Agricultural Department, Agriculture, October 1880, proc. No. 6, part B, NAI.

a course of study a necessary preliminary to employment in certain branches of
government service. The main object was to supply the public to the revenue
service of the country and the large agricultural capitalists with servants who
have a sound scientific knowledge of agriculture and cognate subjects.

The Madras Committee on Agriculture 1888 held their opinion in this
regard was that “knowledge of agriculture would be great advantage to a
revenue inspectors and recommended for a gradual introduction of a rule
restricting such posts to persons who have obtained a preliminary group
certificate in agriculture.” The recommendation was turned down but those
possessed a Diploma in agriculture was paid an extra Rs. 50/- along with the
salary.

The majority of the students who were trained in the college did not turn
as actual farmers, but were employed either as superintendents of experimental
farms, superintendents of private estates, teachers in agriculture and employees
in miscellaneous callings connected more or less with agriculture. Till 1888 the
students those passed out from Saidapet college of agriculture were employed
as follows; farming 39, forests 29, veterinary 25, revenue salt and agriculture
department 80, teachers 6, miscellaneous 8, Total 187. The view then held was
that “we do not look forward to all the students of the college engaging in the
direct exercise of agriculture, nor do we think it desirable that such a state of
things should exist, as we are firmly convinced that the end in view, the
dissemination of higher scientific knowledge of agriculture and of societies
allied to it will be greatly furthered by leavening the educational and other
departments and callings by men who have received a thorough course of
instruction in the institution.”

Non-farming Students:

The admissions into the college constituted student’s majority from non-
farming castes. The much lauded cultivating castes such Vellalas in Tamil area
and Kapus in Telugu area had only a few representations. The students of the college according to caste and nationality at the end of 1888 consisted was Europeans, Europeans and native Christians 29, Mohammedan 15, Brahmans 156, Sudras and others 64, Parasees 18. In the 1887-88 session batch was constituted of the 76 students, 46 were Brahmans, 20 Sudras and others, 9 European and Eurasians, 1 Mohammedan.

In 1885 a proposal was submitted by the college to the government requesting for the recognition of the college according to the newly introduced technical education scheme. According to the new proposal, the students were to be examined in the major subjects by the external examiners. The names of the certificate holders was formally published in the Fort St.George Gazette. The new scheme proposed the creation of the appointment of Vice Principal and an assistant lecturer.

**Reorganization of the college**

In the year 1887, the college course was restructured; the school department was called the junior course of studies and the other the senior. The junior course was extended for one year and the senior for three years. A certificate was awarded on passing a group of subjects to junior course students and a diploma in agriculture on the completion of a course for seniors. For a certificate in agriculture require a pass in the subjects of agriculture with two other sciences like botany and geology whereas for diploma in agriculture require a group of subjects to be passed.

**Educating the Students for Subordinate Jobs:**

The agricultural education imparted at Saidapet college was not designed aiming to prepare the scientists who had to go into agricultural problems but one who can perform the work in subordinate service, either of a teacher, a farm supervisor, or estate manager. The technical part of agricultural
education helped one either to look after one's own lands or to enter the college to get a job in the Revenue Department. Practical work on the field did not attract the majority of the students.\textsuperscript{14} The college of agriculture had performed as an institution of in-service training for the district revenue officials. It trained mainly the newly recruited revenue officials. Students were offered scholarship to study in Agriculture College. In junior department 11 scholarships were awarded annually to the districts in prescribed order, each to the value of Rs. 7-3-0 per month tenable for one year that being the length of the course. In the senior department, seven scholarships of rupees ten, twelve and fifteen per month for three years respectively were given to the districts in the prescribed order.\textsuperscript{15} The district collectors selected these candidates and the college was left with no choice but to accept them. The collectors could not do much in providing the passed candidates with jobs.

Since 1891, the Saidapet College brought under control of the Technical Examination Scheme.\textsuperscript{16} In the technical examination scheme, there was an agricultural group of subjects both in the preliminary higher and in the advanced higher examination. A particular group of subjects prescribed by the commissioner require to be passed to get this certificate. The college under the new scheme was transformed to perform the work of tutorial institution, coaching students for the Technical Examinations under the government scheme.\textsuperscript{17}

After junior course, the students continued two more years at the college to prepare for the advanced higher examination. The course was difficult, as there were a number of subjects under each group. The junior course


\textsuperscript{15} Report of the Public Instruction Department 1880-81, p. 181.

\textsuperscript{16} The Technical Examination Scheme was sanctioned by the Government of Madras in June 1889 aiming to encourage secondary and technical education, of improving its character and of widening its scope. The examination is entirely independent of the university as Commissioner for the uncovenanted civil service examinations.

\textsuperscript{17} BOR, Rev. Settlement, Land Records and Agriculture, 1888, proc. no. 308, A. P. State Archives.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Lectures</th>
<th>Hours of Practical Instruction</th>
<th>Remarks</th>
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<tr>
<td>Class I (1st Year)</td>
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<tr>
<td>Agriculture, Advanced, Part I</td>
<td>54</td>
<td>141</td>
<td>Class usually taken in two batches</td>
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<tr>
<td>Botany, Intermediate Special</td>
<td>100</td>
<td>83 ½</td>
<td></td>
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<tr>
<td>Inorganic Chemistry, Intermediate</td>
<td>66</td>
<td>38</td>
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<tr>
<td>Physiology, Intermediate, Stage I</td>
<td>129</td>
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<td>Some of the Lectures were in reality practical classes.</td>
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<tr>
<td>Veterinary Science, Intermediate Stage I</td>
<td>33</td>
<td>32</td>
<td>A few special classes were held by arrangement with the instructor.</td>
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<tr>
<td>Surveying and Leveling, Intermediate</td>
<td>-</td>
<td>102 ½</td>
<td>Introduction to Second years works</td>
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<td>Museum Classes</td>
<td>-</td>
<td>26</td>
<td></td>
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<td>Class III (IIIrd Year)</td>
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<tr>
<td>Agriculture, Advanced Part I</td>
<td>58</td>
<td>41</td>
<td>Excludes Plot Cultivation</td>
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<td>Agriculture Advanced, Part II</td>
<td>29</td>
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<tr>
<td>Veterinary Science, Intermediate Stage I</td>
<td>100</td>
<td>116 ½</td>
<td>It is impossible to separate lectures from practical work</td>
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<tr>
<td>Inorganic Chemistry, Intermediate</td>
<td>62</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Organic Chemistry, Intermediate</td>
<td>69</td>
<td>35 ½</td>
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<tr>
<td>Surveying and Leveling, Intermediate</td>
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<td>141</td>
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<tr>
<td>Advanced Engineering</td>
<td>29</td>
<td>-</td>
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<tr>
<td>Class II (II nd Year)</td>
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<tr>
<td>Agriculture, Advanced Part I</td>
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<td>Agriculture Advanced Part II</td>
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<tr>
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<td>73 ½</td>
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<td>Agriculture, Advanced Part II</td>
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<tr>
<td>Museum Class</td>
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<td>23</td>
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</tr>
<tr>
<td>Surveying and Leveling Class</td>
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Source: Board of Revenue, Revenue Settlement, Land Records and Agriculture, 30 July 1894, proc. no. 308, TNA.

Advanced Higher Examination Certificate was considered as equaling to the diploma of the college. The Director of the Public Instruction being in charge of the agricultural college could create this facility as the technical examinations were under his authority. Students could easily pass a few of the
subjects to get a certificate, but it was not easy to get the Advanced Certificate, passing all the subjects. The diploma holder was expected to be well versed in the theory of agriculture, that is, the soil, the fertilizer, irrigation, seasons etc. but could not make a farm hand himself. The managerial training helped him when selected for a job.

The students passed out from Saidapet up to 1894 were employed as follows, forming and coffee planting 18, superintendents of farms and gardens 14, private veterinary practice 2, agricultural implements and cotton trade 3, college of agriculture 56, teachers of agriculture 5, agricultural department 16, civil veterinary department 35, employed in government departments and other posts 70, local bodies 9, native states in posts other than agriculture and forests 8, Barristers, pleaders and Merchants 5, Residents outside India 3, unemployed 8, no information received from 52, dead 10, total 309.\(^{18}\)

The number of the students enrolled to the course in March 1893 was 42, and it further came down to 41 in the following year. Regarding the functioning of the college questions were raised from various quarters. The principal, Kees report also reflected the fact that the college did not do well as it was expected “. . . I do not think any improvement in the number of attending the college can be looked for until some satisfactory settlement is arrived.” However, government took consciously some necessary steps to improve the enrollment of the students to the agricultural course. According to the new direction students with diploma along with matriculation were also allowed to sit for the criminal test lower in 1893 and the revenue and criminal higher examination in the following year.

The college of agriculture tried to come on par with the other institutions with other professional institutions like law, medicine, and engineering. The Principal sent a list of qualified men annually to the court of wards, collectors

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\(^{18}\) Public Instruction Department, Madras, 1894 and also see Board of Revenue, Rev. Settlement, Land Records and Agri., 30 July 1894, proc. no, 308, TNA.
and head of the survey settlement and forest department furnishing the details of candidates available for recruitment made. Each student was to be required to furnish half-year report for three years to the principal with information as to how he was employed.

The Government fixed forty rupees as maximum salary of those employed with an agricultural diploma. This was largely done with a view to attract agricultural students to the department. The higher grade revenue test which was not open to agricultural students was opened in 1894 to students of the college who had obtained diploma in agriculture at the Government Technical Examinations. Similarly the Criminal and Judicial Test higher and lower grades were also subsequently opened to them. Diploma in agriculture was made compulsory for the post of assistant under the Director of Agriculture, Agricultural Inspector, Farm Superintendent, Deputy Commissioner of Revenue Settlement, Assistant Commissioner of Revenue Settlement, Supervisors of Revenue Settlement and teachers of agriculture for classes of the intermediate standard. The concession allowed by government to the students of agricultural diploma by permitting them to appear for the criminal and revenue higher examination and thereby placing them on a level with graduates did not produce any appreciable effect in increasing the strength of the college.

The results attained at Saidapet College cannot be regarded as wholly satisfactory. This is undoubtedly due to a great extent to the weakness of the teaching staff. The teaching of agricultural chemistry confined to the extremely short courses of lectures by the Assistant Agricultural Chemist to the Government of India. Botany was taught in elementary manner, the subject of plant diseases or cryptogamic botany being practically left untouched.

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19 Madras Agricultural Calendar 1903, p. 19.
20 Board of Revenue, Rev. Settlement and Land Records and Agri., 11 January 1897, proc. no 22, AP Archives.
Economic entomology was also received inadequate attention. The report of the Voelcker who visited the college expressed decline in the working of the College. Besides, the land was quite unsuitable for practical work, and the buildings were bad and poorly equipped. The teaching staff was also not adequately equipped.

The Saidapet College of agriculture discontinued admission to students from the academic year 1905 and the Department of Education ceased its control. Following this, the Agricultural College at Saidapet was abolished in favour of starting a well-equipped advanced college of agriculture at Coimbatore. The Madras Agricultural Committee which was appointed to report on the progress of the college reported that 'a very great majority, possibly 90 percent of the students are either landholders or members of landholding families; there is overwhelming mass of evidence that the sole object with which most of the students join the college is to obtain employment or promotion in the government service. Out of 187 Saidapet graduates regarding whom information has been collected, only 39 were engaged in farming. Further the committee stated that 'it has nevertheless given a fair return to the country for the excited throughout India and the undoubted good it has done during the time it has been in existence, imperatively demand its continuance.'

Farm Schools

When the proposal was submitted by the then Director of Public Instruction about extension of agricultural education to mofussil colleges and high school, government agreed to entertain such well devised scheme for district farms and schools. Accordingly Benson had suggested a scheme for the

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21 Revenue and Agriculture Department, Agriculture, August 1902, proc. no. 5-9, NAI.
22 Revenue and Agriculture Department, Agriculture, proc. no. 7-11, Sept. 1906, NAI.
23 Proceedings of the Agricultural Conference held in the Revenue Department at Simla, 6 to 13 October 1893, Simla, Government Press, 1893, p. XXIII.
establishment of district farms under the control of an agricultural instructor. His scheme consisted a provision for farms at divisional head quarters. In 1880, government sanctioned agricultural classes to be started in three districts, and in the following year approved as a tentative measure for such classes at government middle and high schools at Salem, Madura and Cuddapah but school could not start in practice. When the Agriculture Committee of 1888 was recommended the district special farm schools in its report, government thereupon revived the proposal to establish the farm schools. The government proposed to establish five farm schools near headquarter in different districts.

The objectives of the scheme that was prepared by the government were that:

At or near the head-quarter station of five representative districts there should be established a combined agricultural school and farm. The school should afford general instruction up to the upper secondary grade and special agricultural teaching up to the standard of the present junior department of the College Agriculture. The farm should be worked principally in the interests of the school, but should also be available for experiment and demonstration. It should be under the management of the headmaster of the school, who, as well as the second master, should be a graduate of the Saidapet College and capable of personally working from implements and handling cattle. These farm schools will be educational institutions, managed by the Director of Public Instruction, but the Director of Agriculture and his Assistant must be freely consulted as to their working, and the farms, so far as they are institutions for inquiry, experiment and demonstration, will be under the exclusive control of the Agricultural Officers. The necessary funds will be provided in the budgets of the two departments, the charges common to both being distributed in such proportion as may seem suitable. It will in time become possible to connect these schools with the District Normal institutions and by this means a class of teachers specially trained in agriculture will become available for supplying agricultural instruction in ordinary primary and middle schools.

The school was to offer special agricultural teaching up to the standard of the junior department of the college of agriculture. The construction of the

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24 Govt. of India, Revenue and Agriculture Department, Agriculture, November 1892, proc. no. 27-32, NAI.
25 Govt. of India, Revenue and Agriculture Department, Agriculture, November 1892, proc. no. 27-31, NAI.
farm was also proposed to these schools for the experiment and demonstration. Except preparation of the report regarding the selection of the places at Kumbakonam, Coimbatore and Bellary it did not move further and proposal for starting agricultural schools was finally dropped in 1899.

**College of Agriculture: Coimbatore**

The insufficiency of the conditions at the college of agriculture at Saidapet precipitated the newly reorganized Agricultural Department for opening a new college of agriculture. In 1906 construction of a building was began at Coimbatore for an agricultural college and research institute. The College was formally opened on 14 July 1909 by Governor of Madras Sir Arthur Lawley, but first batch of the students were already admitted in the college starting from the academic year 1908. The building for the college constructed in the Hindu Saracenic Style was an exceedingly handsome structure. It was built of red table moulded work in mortar with finely dressed cut-stonework resembling any other British structure. The Consultant Architect to the Madras government, C. S. T. Harris, did designing of the building of the college and H.T. Keeling, District Executive Engineer, supervised construction. It was completed with a cost of Rs.4,65,000/-. Unlike the College at Saidapet, Coimbatore College was administered under the direct control of the Department of Agriculture.

The College started with a purpose of imparting training in practical and scientific agriculture. The period of course was extended over three years, at the end, students were presented with a diploma, if they pass the theory examinations, which entitle to call themselves licentiates in agriculture and to write the letters of ‘L.Ag’ after their names. Instruction was not confined to lecturing or textbook reading, a large part of the course also consisted of out

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door work in the field. Students were required to perform all the ordinary farm operations on their own. In the second year, students worked independently on their plots both wet and dry farming.

During their first year, students were given an elementary chemistry, botany, zoology, physics and some simple physiology and laboratory work. In the second year, they attended lectures on agriculture, agriculture botany, economic botany, agricultural chemistry, veterinary science, economic entomology and mycology, plant drawing and simple engineering. At the end of second year, they were examined for the first part of the diploma in the subjects of agriculture, agriculture chemistry, agriculture botany, mycology and entomology. In the third year, the students continued their lectures in agriculture and farm management. They also spent time attending veterinary hospital, working on the engine house and feeding the farm cattle. Apart from that they had to familiarise themselves in simple surveying and farm building.

During the first 18 years, the course of instruction at the College underwent marked changes on two occasions. The single course of 3 years, which was started in 1908, was altered into four years course in 1914.28 The first two years course of instruction was treated as the certificate of proficiency of Agriculture course. The second course was instructed for another 18 months at the end of which they were examined and given a diploma. The system of education was adopted second alteration in the year 1920 on the recommendation suggested by an educational committee headed by R. Cecilwood, the then director of agriculture of the Province. The Committee recommended to raise the standard of instruction and to attract better students, the committee advised affiliation of the college to the University of Madras. These proposals were accepted and the new scheme was subsequently implemented since 1920. The question of affiliation of the Agricultural

College to the Madras University was proposed first time in 1900, but it was accepted finally only in 1920. The first batch of students were admitted to the university course with a view to give a higher type of education both in the theory and practice of agriculture and to train students for broader outlook. To attract meritorious candidates, government offered scholarship of Rs. 25 per student between 1920 to 1923, however the award of scholarship was restricted to a few. The admission into the B. Sc agriculture course was provided to those candidates who passed the Intermediate examination with science subjects as their optional.

On the opening up of a separate building, 'Freeman building’ in 1926 on the occasion of the golden jubilee of agriculture college, the admission of first year students had been increased to 48 from 20, the maximum that can be accommodated in the laboratories. The Freeman building was a big and handsome structure built close to the Research Institute and was fully equipped for teaching. The agricultural education offered at Coimbatore College of agriculture was regarded as ideal one. The course leading to the B.Sc. degree in agriculture consisted of an advanced study in agriculture and its allied sciences, which was accepted one as of the best in India. The instruction in farming had many peculiarities of its own. The students were participated in all the farm operations. They were to handle actually animals, work on ploughing and carting of manure, farm plots, working on the mhote, irrigating the fields, raising of seedlings and transplantation, harvesting the crops, other farm operations. They were also taken on tour to typical agricultural tracts of the presidency. This comprehensive training imparted was intended to prepare better masters of the farm.

Veterinary Education

Outbreak of diseases and spread of epidemics are not uncommon phenomena in Indian society. Thousands of cattle happened to be perishing as
and when there was climatic change. There was significant rise in the death of cattle particularly in the late eighteenth century owing to the spread of disease. It was predictable that whenever there was famine, there occurred a major outbreak of disease leading to the death of huge number of cattle. During the 1865 and 1876-78 famines, millions of cattle were lost on account of rinderpest, anthrax and other diseases. Soon the government realized the need to intervene into the situation to minimize the loss of cattle wealth, as it had been detrimental to survival of the farmers. Subsequently some remediable measures were introduced and new policies were taken with the view to enhance the veterinary treatment facilities. Imparting the instruction of the veterinary science was considered crucial for the protection of cattle wealth. In this direction special courses were introduced in the all the agricultural colleges. At the Saidapet College, arrangements were made for instruction on the veterinary science expecting these students after completion of their course to join in the veterinary department. 29 Pass in the subjects of veterinary science was required for the diploma in agriculture. The veterinary science taught for the first year students includes introductory veterinary science consisting of 33 lectures on theory and 32 hours on practical instruction at the Veterinary Hospital. In the second year (First Year of Diploma Class) included intermediate stage consisting of Anatomy and Physiology with reference to only to cattle and sheep consisting of 100 lectures and 116 1/2 hours on practical instruction. In the third year (Second Year of Diploma Class) included intermediate second stage mainly Surgery and Medicine with reference to cattle and sheep consisting of 108 lectures and 117 hours on practical work which consisted clinical instruction at the hospital. These students were also taught about different process of castration of cattle. The subordinate staff called Stock Inspectors was entertained first time in 1882. By 1887, 18 Stock Inspectors were posted in various districts throughout the Presidency to combat

29 Board of Revenue, Revenue Sett, Land Rec. And Agri., 30 July 1894, proc. no. 308, TNA.
the spread of the cattle disease. The practice followed till 1887 for the recruitment of stock Inspectors was to select agricultural college diploma holders and sending them for a one year special course of veterinary training. The modification of the selection policy became inevitable to meet the new requirement, as there were not sufficient candidates available to be appointed as stock Inspectors in various districts. Therefore, since in 1887, the plan was modified, students who had completed one year course and passed the preliminary examination for the agricultural group certificate were also selected and sent to a two years special course of veterinary surgery and medicine at Saidapet College. Inspector of Cattle disease, J. Mill mentioned difficulties in the practical training of students, especially Brahmins, who find hard to handle carcasses or operate on the living beings on account of social taboos. High caste students were equally repulsive for practical works such as stitching and dressing wounds and sores, castrating, operating postmortems, dissecting. Further he observed that men who had caste objections to such work could never be trained, though they might read books and pass good written examinations.30

The proposal for the establishment of veterinary dispensaries was also approved in 1900, but the scheme was held in abeyance owing to lack of trained men. The establishment of independent veterinary college was proposed in 1890, but the college could not be opened. An independent veterinary college was created only in 1903 at Madras with an attached laboratory. Until 1909 when a separate principal post was created, the superintendent of civil veterinary department had acted as ex-officio principal. Aicheson was appointed as first principal to the college. The Madras Veterinary College offered instruction in theoretical and practical subjects. The principal objects of training were to supply men for service under government Municipalities, Local Boards, and Veterinary Departments. The course of

study for the diploma was three years. There were 62 students in 1910-11, 94 students in the academic year 1920-21.

**Agricultural Science in General Education**

Agriculture could not attain a place in general education till 1880. In 1881, it was first time discussed in the Educational Resolution and again in 1884 the government of India’s resolutions laid emphasis on the introduction of practical subjects in general schools. E. C. Buck, the secretary of the Imperial agriculture department while emphasising on the progress of agricultural education, pointed out the "absence of anything connected with agriculture in the primary teaching." He suggested a training of teachers in agriculture through the medium of Cirencester passed natives and the introduction of scientific element into primary education and also instruction in the knowledge of revenue records.

In Madras province agriculture was offered as an optional subject of instruction for boys in the fourth, fifth, sixth and seventh standards. In the high school curriculum the agriculture did not find a place because it was not recognised by the university for the entrance examination. In the infant, first, second and third standards, subject was not imparted directly, but a good deal of information bearing agriculture and allied subjects, directly or indirectly, was conveyed to pupils in connection with the teaching of object lessons or elementary science. Object lessons were to cultivate among children habits of observation, statement and reasoning. From the infant standard to third standard common objects, such as familiar animals, plants and substances were inculcated. The Agriculture committee of 1888 observed that ‘we are not in favour of including the subject in any standard below the fourth because we believe that the general knowledge of the children as represented now by that

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31 Madras Agricultural Calendar, 1926.
standard is not sufficient to warrant agriculture being taught as a special subject even in the third standard. But the Madras Agriculture Committee recommended inculcating the elementary agriculture into Object Lessons and Elementary sciences. The committee also felt the necessity of improvement in agriculture subject in the fourth standard to seventh standard:

"We are of opinion that the course here should comprise the inculcation in a simple form of the great principles of the healthy growth of plants and of sound methods of cultivation- the subject to be taught not only from a text book, but orally by a teacher who understands the subject in its practical and theoretical aspects; though his standard of knowledge of details need not be high, he should have a thorough grasp of the subject. So far as he has gone and have been taught how to impart what he knows. In view of the above remarks we consider the best should be prepared in English to translated into all the south Indian vernaculars. Its illustration should be drawn from South Indian agriculture- so far as the facts are common to all parts of the presidency. There is enough in common throughout the presidency to render localisation in this respect unnecessary except in so far as oral teaching is concerned."

From the fourth standard onwards an elementary knowledge was imparted of animals or plants with particular reference to agriculture. The Government of Madras included agriculture in the new primary examination, in the special primary examination which was the lowest general test for primary teachers, in the middle school examination and in the technical examinations.

For the fourth and fifth standards Benson and C. K. Subba Rao, deputy director and sub assistant director of the agriculture department of Madras presidency jointly prepared the First Book of Agriculture respectively. For the sixth standard, Robertson's Agriculture class book was prescribed as textbook. These books had been translated into vernacular languages of Tamil, Telugu, Kannada, Malayalam, Oriya and Hindustani. But no textbook was prescribed for object lessons; the Standard English works on the subjects were generally

followed. At the 1894 primary examination, 1265 male candidates imparted in agriculture of whom 783 were declared successful. During the 1893 year, agriculture was opted in fourth standard 876, in the fifth standard 104, and in the sixth standard 4. The reasons for this less number of students in the fourth, fifth and sixth standard were mainly due to lack of teachers trained in agriculture. Secondly, agriculture did not find a place in high school curriculum because it was not recognised by the university in any of its examinations.

Voelcker's Views on Education

Dr. Voelcker viewed that the spread of education would be an improvement of agriculture. It will do much to remove the prejudices attaching to caste and custom, which prevent progress in agricultural methods and it will give rise to a more intelligent farming class.\(^{35}\) It was expected to train really educated classes who would aid less intelligent cultivators. In 1885 it was reported that the real agricultural improvement must come from the people themselves and that the state should concern itself mainly with the gradual education of the agricultural population and with the conduct of any scientific analysis, which the people cannot be expected to work out for themselves.

In the nineteenth century education in agriculture was more of a theoretical grasping of various branches of science. It did not create an appreciation of science as a tool for transformation. Graduates from school, and colleges, seek some non-practical post, where their influence on practical farming is very small.\(^{36}\)

At the agricultural conference at Delhi in 1888, and at Simla in 1893, careful thought provoking discussions were made on agricultural education. Observation was made that education would bare fruitful results if theory and


\(^{36}\) Revenue and Agriculture Department, Agriculture Branch, August 1888, Nos. 1-3, NAI.
practice were brought into close alliance. Through it agriculturists were taught how to observe and draw inferences from observation, to receive in fact instruction of a practical character. Agricultural education made the agriculturists capable of adopting and assimilating various improved techniques. For a practical involvement a simultaneous synchronization of the eye and the hand with the instruction of mind was initiated. Highlighting the lack of such training at Saidapet College, Wilson, the Director of Agriculture, Madras, commented that unnecessary attempts were made, "to acquire a language from its grammar instead of learning the grammar from the language." For all practical purposes, he considered the 'art of agriculture' more essential than the science of agriculture.

Agricultural education was provincial governments' responsibility; therefore, it had to face ravages of financial restraints. The colonial restraints and negligible public pressure for agriculture education did not create an apex functioning of educational policy in rural India. Analysing the requirement of agrarian India and education in this context, Voelcker pointed out the importance of educational infiltration as a two-way process from the top to base and vice versa. The Agricultural Conference held during 6th to 13th October 1890 at Simla discussed in its fourth meeting on agricultural education. The conference raised the issues on whether special teaching in agriculture was desirable and whether it was to proceed from above downwards or from below upwards. The Secretary of the Agriculture department of the government of India, E. C. Buck favoured the latter, he wanted agricultural education in elementary fashion rather than in Colleges. His views were emanated largely from financial constraints. Clogstoun,
Director of Agriculture department, Madras, on the other hand asserted the reverse. He insisted that “the source from which the teaching power springs must be put on a higher level and we can never look to the stream to flow healthily throughout the country unless the fountain-head be pure. The conference finally recommended that higher agricultural education should not be provided by special institutions but should be grafted to the existing ones, and the claims of men with training in scientific agriculture should be freely recognized in the revenue and cognate departments.

These proposals were again discussed in fifth Simla Conference of 1893. The conference discussed on how an agricultural colouring may be best imparted to the education given in rural primary school. The Director of Public Instruction of Madras Presidency presented a paper on agricultural instruction in Madras Presidency at the conference.

The conference considered at length the place of agriculture in the school course. Two questions arose: first, should agriculture be taught as a separate subject at all, or like elementary science, are embodied in readers? Second, if admitted as a separate subject, should it be optional or compulsory? The general consensus made was that in the lower primary stage ‘the interests of agriculture would be sufficiently served by compulsory instruction in elementary science in view of the fact that . . . almost all instruction conveyed in rural schools through the medium of object lessons must acquire an agricultural colouring, because the surrounding objects used for illustration are themselves connected with agriculture. Most Provincial Governments were of opinion that agriculture and sciences ancillary to agriculture (and sciences ancillary to agriculture) should be at least made optional subjects at a later stage in the school curriculum. The Government was content to leave the question to the decision of Local government and Administrations.

42 Revenue and Agriculture Department, Agriculture Branch, August 1888, proc., nos. 1-3, NAI.
43 Proceedings of the Agricultural Conference, Simla, 10 October 1890.
Voelcker’s suggestions regarding education of the agricultural classes were discussed in 1893 in Simla conference. The general view of the resolutions passed by the Conference was that ‘greater success is to be expected from making instruction in the rudiments of agriculture part and parcel of the primary system of instruction in the country, than from teaching it as a separate subject apart from the general educational programme.’\textsuperscript{44} There was a change in the organization of education at the end of nineteenth century. Agricultural education was assuming two dimensions. The farmers were to be educated on the one hand, and the students had to be trained on the other hand to conduct experiments and to guide the farmers.

In the beginning, the department of education exercised its authority over the early agricultural educational institution; it was different in 1908 with regards to newly started Coimbatore College under the department of agriculture. In 1910, the Board of Agriculture was also decided that the Department of Agriculture should help the normal schools in their agricultural instruction. Because it was necessary that both the Department of Agriculture and Education should plan together and evolve the courses to be maintained so that children could have some practical experience. The Board of Agriculture wanted the Agricultural Department to send its officers from time to time to inspect how nature study was taught in the teacher training schools. These officers reported on how the needs of conducting nature study class were handled. School Gardens were given greater importance than at any other time in the past.

As regards agricultural education in secondary schools, courses of agriculture were not given much importance, mainly because the university considered a pass in the secondary school leaving examination as the qualification for entrance. Whether these students went to the agricultural college or any other college, English was compulsory. The officers of the

\textsuperscript{44} Revenue and Agriculture Department, Agriculture, proc. no. 5, Nov. 1895, NAI.
Agricultural Department was expected to supervise school garden in the rural schools, advice upon the curriculum work, assist on the school on examinations on nature study, and in teaching the nature study in the teacher training schools. The teachers to be employed in training schools were to be recruited to Coimbatore agriculture college.

Different government farmers managers and assistant farm managers toured district to advice farms on better ways of cultivation. The sons or relatives of those farmers were invited to work on the farms as labourers to gain experience in the new methods. For the work they did on the farm, they were paid a small amount of wage. Under a scheme for improvement of secondary education in the Madras Presidency nineteen high schools were proposed. This was necessary only if all the subjects were introduced in all the schools simultaneously. In pursuance of the scheme for model schools, the Director of public instruction corresponded with the Director of Agriculture about getting one or two teachers trained institute at Coimbatore.

The one important change in policy was that teaching in agricultural schools was to be in English as well as in Vernacular. As the yearly agricultural conferences became a regular feature after the establishment of Board of Agriculture in 1905 in Government of India, all the resolutions made in the Board’s conferences were circulated to provincial government. These resolutions were taken as suggestions by the provincial governments. The resolutions of 1917 Simla conference were communicated to Madras government advising on the establishment of high and middle agricultural school.

**Agricultural Middle Schools**

The Madras government opened two agricultural middle schools one at Taliparamba in the Malabar, and another one at Anakapalle in the Vizagapatam
district. These two schools were started in 1922. The opening of a third agricultural middle school at Kalahasti in Chittoor district was sanctioned during 1926 but the school had not been opened. These schools were to train the students who were actually intended to undertake farming after their education. The course in these schools was to be of four years. Of these four years, first three years, students learn theoretical and practical knowledge and in the fourth year they work as apprentices to familiarize themselves in practical techniques of agriculture, accountancy and farm management. It was felt that if these schools proved to be a success it would be necessary to open a very large number if it were desired to make any considerable impression upon the general body of cultivators. From this it followed that these schools were expensive to turn, each must become largely self-supporting. The purpose of an agricultural middle schools were to provide, for the sons of cultivators, a course of instruction in the principles of agriculture with special reference to the agricultural of the tract where the schools located. The boys who attend the school were to be of a certain age and to have reached a certain standard of ordinary education, and when they complete the course were to return to cultivate the land. Instruction was given in the vernacular. The ultimate object aimed at was to rise up a class of cultivators, better than their father, more alive to the possibilities of their traditional occupation and more receptive of new ideas.

Of the two schools, school at Taliparamba had shown better progress. Forty five boys had been passed from the Taliparamba School, 14 in 1923-24, 13 in 1924-25 and 18 in 1925-26. Of the 45 boys who had passed from the Taliparamba school 13 students were reported to be directly engaged in farming their lands. At Anakapalle School which had not been altogether a success and appears to be a very small demand. The total number of students in 1926 was only 17.
These schools did not flourish owing to little demand. Perhaps reasons were that the poor father of a son takes him away from the school at an early age and gives him practical agricultural education in the field. The rich ryot send his cleverest son to the high school in the neighboring town with a view to his obtaining education which will enable him to enter government service and escape from the hereditary.

Agricultural education in the first decade of twentieth century assumed wider dimension. However, education in agriculture remained inadequate but opening was made to educate the farmer in commercial crops as well as preparing up of the trained students to meet needs in the department of agriculture. Agriculture education was expected to educate the ryot, his child and the landowning class in general. The ryot was expected to increase production by following new machinery and tools, better seeds and manures. The child was expected to better agricultural practices did not get the correct type of education, because of lack of enthusiasm on the part of teachers and lack of interest on the part of students also. In the agricultural institutions preferences was to be given to the farming classes but literary minded and English knowing youths were admitted to the college because of the European teaching staff and these students did not think of going to land.

Conclusions

This chapter had attempted to examine introduction and institutionalisation of agricultural science through education. Agricultural science was ignored for a long time as a discipline of instruction in educational scheme. The Saidapet College of agriculture was first of its kind started not only in Madras presidency but also in India itself. Although college was started with an object of preparing practical farmers, but college instead had trained the students suitable to the subordinate posts in revenue and other departments. The students of the college of agriculture at Saidapet and after 1908 at
Coimbatore had joined in government employment and very few had took up agriculture. Colonial imperatives of training Indians to fill positions at the subordinate level in the revenue and other departments led to institution of agricultural instructions at Saidapet and later at Coimbatore. However, training of non-farming classes was aimed for supporting the British administration.