

different parts of India to come in contact with one another; and all differences of status are sunk there. Students, who are generally graduates, move on a par with others.

Besides these, there is the Pusa Students' Union, started by a handful of post-graduate students in the year 1912. Its object is to discuss literary, social and scientific matters. The Union receives cordial help both from the Govt. and the public of Pusa. Within the estate, there is a Post and Telegraph Office; and the Hospital is a great boon not only to the Pusa public, but also to the surrounding villagers.

Such in brief is the life of a student at Pusa. But the place would have been more attractive if it had been on the main line between Calcutta and Delhi; and the Institute would have attracted more students, especially for post-graduate study, if there had been a University Degree or a Government title, as M. Sc. or M. Ag.; and prospects of post-graduates are far from encouraging. After all, during a short stay of 2 years, a students' life at Pusa is happy and pleasant. There is wide scope to study different characters, since all nationalities are there. Necessarily, one grows wiser on his final return from Pusa than when he goes there in the beginning. But, as a bit of advice, one must move cautious.

B. DWARKANATH, L. AG.,  
*Post Graduate, Pusa.*

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### **Some Difficulties in the Way of Extending Sugarcane Cultivation. \***

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Although it is well known that sugarcane planting is very profitable, the difficulties attending the cultivation of the cane and the harvesting and manufacturing of it into sugar or jaggery, deter many from undertaking it on an extensive scale. A large quantity of water

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\*Being summary of paper submitted to the Agricultural Conference held on 20th July 1914, by Mr. N. Krishna Aiyangar, B. A., Landlord, Mysore.

is required to grow cane to perfection, but stagnant water is detrimental to its growth. As most of the irrigated holdings are so situated that it would not be possible to drain them without cutting a drain across other holdings, a very large area of good land is found unfit for cane planting. Further a large area of land that admits of being easily drained is often found unsuited for cane growing on account of the capacity of the irrigating sources being insufficient. This difficulty could be, to a great extent, overcome by the better conservation of water and also by supplementing the sources of water supply by lift irrigation.

Sugarcane being a gross feeder, a large quantity of manure is needed for its successful cultivation. Many give up planting on account of the difficulty of procuring manure which is every day getting dearer. The chief difficulty, however, in extensive and intensive cane culture is that attending its harvest and manufacture. The sugarcane crop, after being at its best for a short time, at a certain age rapidly deteriorates or the sucrose content is reduced. To avoid this loss of sugar, the cane has to be cut as soon as it is ripe, milled as soon as it is cut and the juice boiled as soon as the cane is crushed. All these operations have to take place simultaneously. In consequence a number of people and cattle have to work at one and the same time. As few can command the labour and cattle power required for the purpose, sugarcane is generally harvested (1) by a few growers clubbing together or (2) by letting it out on contract to professional mill-men. Cane growers who arrange to harvest their crop by clubbing together are unable to plant on an extensive scale on account of some practical difficulties of the system. Under the contract system the professional mill-men go from village to village working with a mill, pans and a few pairs of buffaloes. The mill generally is out of repair. The number of buffaloes they can afford to keep is usually small. Consequently they take a long time to get through the milling of a small plot of cane. The grower, for want of a better agency, has to be content with their indifferent work. The result is that a small quantity of jaggery per acre is turned out owing to the deterioration of cane and the defective crushing and boiling. If, on the

other hand, the cane is cut quick and as soon as it is ripe, the grower not only gets a larger quantity of jaggery per acre but has also the land, occupied by the cane, available for other crops.

To this end, should there be factories to work up large quantities of ripe cane, the cultivator, not being hampered with the difficulty of harvest, would be able to extend his cultivation. It is generally admitted that the average system of cultivation adopted and the quality of the cane grown in South India are good. This being the case, it is to the best interests of the grower to dispose of it in a quarter where the maximum amount of sugar, which has cost him so much labour and skill to produce, is extracted in the most marketable form rather than allow it to be sacrificed by imperfect methods of manufacture. The large central factory system has, to some extent, been tried in India and not proved successful.

This does not disprove the general principle involved but merely indicates that the country is not ripe for such radical development. It is too long a jump from the cattle mill to the large central factory. Centralization on the theoretical scale means an upheaval of long standing conditions and traditions which, even with the best organisation and control, would inevitably result in failure. The position requires therefore to be approached cautiously and, from the point of view of present experience, keeping, however, in view the principle of centralization, the question resolves into the consideration of what should be devised to best meet the immediate requirements. Although large central factories are by far the most economical, yet for the reasons stated, the erection of small factories—I do not mean factories of the sort started at Singanallur—to make jaggery appears to be more suited to the present circumstances. A major portion of the losses, due to defective crushing and inversion in evaporation, could then with advantage be avoided. The value of the jaggery obtained by better crushing and evaporation will, I am convinced, enable the factory to pay its initial cost in a few years.

The failures of a few who put up machinery for various purposes, the difficulty of getting timely professional advice and help and the

risk involved in importing machinery, the first of its kind, deter many from investing in machinery. If Government should put up a small factory for demonstrating the advantages to be derived by the use of machinery in jaggery making, the above mentioned difficulties would, I think, be solved to a very great extent. I am fully aware of the disadvantages of Government undertaking a work of the nature. Under Government control, the working charges of the factory will surely be high, making the net advantage appear very slight over that derived from the ordinary method. The main feature that has to be kept in view appears to be to conduct the experiment on lines which would ensure success in the undertaking. Success in the working should be ensured, as otherwise the effects on the industry at the very commencement would be disastrous.

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### **“Anaikombu” in Paddy.—A Rejoinder.**

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The short note on “a new rice pest”-contributed by Mr. K. Sankar is really of great interest to an Economic Entomologist. Although the Entomological Section of the Agricultural College and Research Institute, Coimbatore, was well acquainted with the existence of the disease know as “Anaikombu” or “Thandeethu” in the Tamil and as “Kodu” in the Telugu districts, its exact cause was, on account of the want of plentiful genuine material, but imperfectly known. The Entomological section is certainly very much indebted to Mr. Sankar for the fine specimens of attacked plants he sent by post and for the interesting account he furnished of his personal observations in the field. Original observations of this kind are extremely valuable and will, I am sure, be eagerly welcomed by the Editor. There are, however, certain inaccuracies in the description of the pest which may be brought to the notice of the readers of this journal. Our knowledge of the life history of this pest, I confess, is not yet complete; yet sufficient details have been