THE MARKETING AND TRANSPORT OF JUTE IN INDIA

THE various aspects of the marketing and transport of jute in India formed the subject of an exhaustive enquiry by the *Indian Central Jute Committee* and the results of the enquiry have just been published as far as it relates to raw jute, the subject of the manufactured product being reserved for a separate publication to be issued shortly. The report deals in great detail with every aspect of the subject giving precise and authentic information supported by a mass of statistical data and illustrated by many diagrams and charts. Quite an important section describes the present methods of forecasting areas and production and the well-known imperfections of these methods are fully brought out; the official forecasts are found to fall short of actuals to an extent varying from 26 to 41 per cent. in the acreage alone, and in respect of out-turn by about 23 per cent. on the average. The recent arrangements for evolving a less unsatisfactory method of forecasting by adopting the random sampling technique is referred to in this connection which will be carried out as an experimental measure. The jute area in India may be put down as approximately 2,900,000 acres with an estimated production of about 10,000,000 bales giving an average yield of about 3 bales per acre. About 57 per cent. of the production is used in the Indian mills, and 40 per cent. is exported; the export value of both raw jute and manufactured products amounted to about Rs. 45 crores in 1937–38. The peculiar feature of the jute industry in India is that the cultivation is confined to Bengal, Bihar, Assam and Orissa; neither the other parts of India nor other countries in the world have been found suitable and the production outside India may be considered negligible giving India therefore a complete monopoly in the supply of this product. A good many substitutes have however been used in recent years and these have shut out jute from some of its accustomed markets notably Australia where it has now ceased to be used for wool packs. The Research Section of the Committee is said to be working on the subject of finding additional uses for jute.

The various steps in the marketing ladder are fully described in the publication with recommendations for minimising losses to the actual grower. It is also a singular fact that this huge production is derived from very small farmers, about 37 per cent. of growers in East Bengal and 50 per cent. in other jute areas produce less than ten maunds and those who produce over 30 maunds number only about 12 per cent. Attention is drawn to the difficulties of transport on account of the inundation to which the country is subject regularly during part of the year, and which is one of the chief reasons why growers are forced to sell the fibre quickly, indebtedness and poverty being as elsewhere other causes operating against holding up the crop in expectation of higher prices; but from the trend of prices given in the report it is seen that prices rule high during the months after harvest and then fall continuously from which one gathers there is no advantage in helping growers to hold up produce. An example of the difficulties of transport is furnished by East Bengal where 85 per cent. is by country boats, quite 10 per cent. by headloads and some 5 per cent. by carts and ponies.

The marketing intermediaries and their methods and even malpractices are very similar to what prevails with other products and form familiar reading. A bewildering multiplicity of weights and measures, frauds in weighment, various unjustifiable market charges, deductions for alleged inferiority in quality, moisture content and so on, ignorance of the price fluctuations on the part of growers, watering of the jute, adulteration with inferior grades, price fixation not by open bidding but secretly under cover,—these features characterise the jute trade quite as much as they do all agricultural marketing in this country. The remedies recommended are also more or less familiar. The organisation of regulated markets, standardised weights and measures, legislation on the lines of Cotton Transport Act, publication of daily prices in the village by suitable means including radio, improvement of rural road and other means of transport are among the suggestions made. Reference is made to co-operative sale societies but Bengal seems to have had disastrous experience of such societies; between 1925 and 1929 as many as 16 societies were formed including a wholesale society but by 1930 all of them had to be closed involving a loss of Rs. 20 lakhs! It is doubtful if in the face of this experience further ventures in this field will be viewed with favour.

The price structure compiled reveals that taking Calcutta delivered price as Rs. 100, the producer received Rs. 81, transport and handling absorbed Rs. 10, market allowances Rs. 3 and standing charges of balers Rs. 6. Although some of these charges are capable of reduction especially the market allowances and the balers' charges for being passed on to the grower, still it is evident that the grower does not get a bad deal after all, especially when it is remembered that he sells quite 75 per cent. of his produce either at his door or in nearby weekly fairs and that between 80 and 90 per cent. of the crop is sold and converted into money within three or four months after it is ready for sale.

The large terminal purchasers at Calcutta both for the mills and for export are exceedingly well organised as may be assumed in an industry of this magnitude. The *Indian Jute Mills Association* is the most important organisation and it exercises great influence in the general conduct of the jute trade. The futures market is in the hands of three Associations, their working leaves much to be desired and recommendations are made in this behalf. Among matters for research are mentioned the subject of the moisture content of raw jute, the evolving of a method of classification of qualities and grades on scientific basis and a determination of the spinning qualities of the different classes of jute. An account is given

of the frequent changes in standards fixed for the trade qualities with the attendant confusion and room for arbitrary assessment of values. Improvement in methods of preparation and storage are also among the questions being studied.

Scientific work has resulted in the evolution of high yielding strains in both the species grown, *viz.*, the *capsularis* and the *olitorius*. In 1937–38 it is said that 53 per cent. of the jute area in Bengal was cultivated with these improved strains, a very notable testimony to their superiority over the ordinary strains. Reference is made to a scheme of seed distribution which resulted, strangely enough, in the extraordinarily high price of from 12 annas to Re. 1 per seer of Government seed as against one and a half annas to two annas for bazaar seed. As a result, in that year only one per cent. of the jute area was sown with seed from Government supply. It should certainly be possible to remedy this state of affairs. Special efforts are, however, being made with suitable funds to extend the supply of improved seed. The report is a mine of valuable information, statistical and descriptive, on the various factors relating to the marketing of raw jute.

A. K. Y.

CENTENARIES

Mallet-Favre, Jaques Andre (1740–1790)

JAQUES ANDRE MALLET-FAVRE, a Swiss astronomer, was born at Geneva in September 1740. He was a favourite pupil of Daniel Bernoulli. About 1770 he became professor of astronomy at Geneva and built its observatory. He wrote seven papers, the field covered being probability, astronomy and mechanics. The first paper entitled *Recharches sur les avantages de trois joueurs, etc.*, appeared in 1762 in the *Act. Helvet.* He was a fellow of the Royal Society of London and its *Transactions* of 1767 contained his *Memoir concerning the most advantageous construction of water-wheels, etc.*, in which he investigated the most advantageous number and size of float-boards.

Mallet died at Geneva 30 January 1790.

McClintock, Emory (1840-1916)

EMORY McCLINTOCK, an American actuary, was born at Carlisle, Pa, 19 September 1840. His father was a clergyman who acted as professor of mathematics in Dickinson College for a time. While Emory was an undergraduate at Columbia, his remarkable ability excited the admiration of his professors. When one of his teachers fell ill in April 1859, he was graduated as an emergency measure and appointed tutor. But he migrated to Paris in 1860 along with his father. After studying chemistry at Gottingen, he returned to America in 1862. He was appointed as an engineer of the United States Army, but, on his way to Washington, suffered a sunstroke which prevented him from entering the army. After seeing various appointments, he finally settled down in 1889 as actuary of the Mutual Insurance Company of New York.

Contribution to Actuarial Science

McClintock's grasp of the insurance problem and his recommendations in the general reorganisation of the American life-insurance companies in 1905–1906 made him for many years the recognised leader in actuarial circles. He was one of the founders of the Actuarial Society of America (1889) and later its president (1895). He was also a member of the permanent committee of the International Congress of Actuaries.

Contributions to Mathematics

McClintock was also one of the founders of the New York Mathematical Society (1891) and one of the leaders in transforming it into the American Mathematical Society in 1894. It was chiefly through his encouragement and support that its *Bulletin* (1891) and *Transactions* (1900) were started. It was again his influence and financial assistance that led the Society to publish (1896) the *Proceedings* of the International Mathematical Congress held at Chicago in 1893. He never failed to stimulate and inspire every one of scientific aptitude with whom he came in contact.

His Papers

In addition to several contributions of actuarial nature, McClintock published no fewer than 23 papers which belonged to the domain of pure mathematics. His first paper entitled *An essay on the calculus of enlargement* (1879) was an attempt to present the calculus of finite differences and the differential calculus from a unified point of view. This paper is looked upon as a precursor of recent attempts to consider difference equations as differential equations of infinite order. His *Analysis of quintic equations* (1885) and other papers on the same subject indicate his truly remarkable power of manipulation and clearness of vision.

McClintock died 10th July 1916.

S. R. Ranganathan.

University Library,
Madras.