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REPORT OF THE
DEPARTMENT OF INDUSTRIES
AND COMMERCE
MADRAS :

FOR THE YEAR ENDED
31ST MARCH
1942

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ADMINISTRATION REPORT OF THE DEPARTMENT OF INDUSTRIES AND COMMERCE, MADRAS, FOR THE YEAR ENDED 31st MARCH 1942.

Direction.—Mr. L. B. Green continued to be in charge of the department throughout the year. In G.O. Ms. No. 1928, Development, dated the 23rd October 1941, Government sanctioned the creation, temporarily for a period of one year from the date of appointment of a post of Joint Director of Industries and Commerce and I was appointed to the post in G.O. R. No. 479, Public (Special) Department, dated the 25th October 1941. I took charge as Joint Director of Industries and Commerce on the afternoon of the 27th October 1941 and continued to hold the post throughout the year. Mr. W. Fyfe, Inspector of Industrial Schools and Personal Assistant to the Director of Industries and Commerce, was on leave from 28th October 1941 to 14th December 1941 and finally retired from service on 15th December 1941.

2. *Tours.*—The Director of Industries and Commerce was on tour for 59 days and the Joint Director of Industries and Commerce was on tour for 34 days during the year.

3. *Exhibition.*—This department participated during the year in a number of Agricultural and Industrial Exhibitions held in various parts of this Province. A successful display was staged at the Industrial Exhibition organized by the South Indian Athletic Association, Limited, Madras, in December 1941. Tools and implements used in cottage tanning industry, different kinds of leather used for different kinds of work, shikari skins, leather goods, South Indian Tanning Materials, indigenous tanning materials were exhibited by the Leather Trades Institute and a hand-boring set, newly designed borewell pump and a sugar centrifugal were demonstrated by the Engineering section. The products of the Kerala Soap Institute and the Government Oil Factory were also exhibited.

4. *Committees.*—The Director of Industries and Commerce continued to serve on a number of committees including the Advisory Committees of the Madras and Southern Mahratta Railway and the South Indian Railway, Provincial Marketing Board, Executive Committee of the Victory Memorial School for the Blind, Poonamallee, Senate of the Andhra University, Council of the Victoria Technical Institute, Council of the Indian Institute of Science, Board of Visitors of the College of Engineering, Guindy, Board of Directors and Executive Committee of the Madras Handloom Weavers Provincial Co-operative Society, Limited, and General Body and Council of Management of the Madras Industries Association in which the administration of the Central Industrial Museum is vested. The Director of Industries and Commerce

continued to serve as a member of the Madras Provincial War Committee, the Provincial Advisory Committee for War Supplies, the Hides and Skins Committee and the Fish Committee of the Imperial Council of Agricultural Research and the Ceded Districts Economic Development Board and he was appointed during the year as a member of the Madras Port Trust Board. He was appointed as the Secretary of the Local Industrial Research Committee which was constituted during the year. He continued to serve as Chairman of the Board of Industries constituted under the Madras State Aid to Industries Act, 1922. He continued as a member of the Technological Diploma Examination Board and the Committee for the selection of pictures and other articles for the annual exhibition of the School of Arts and Crafts, Madras, until October 1941 when the Joint Director of Industries and Commerce succeeded him.

5. *Conferences with the Government of India.*—The Director of Industries and Commerce attended a conference at Calcutta on the 28th and the 29th August 1941 to consider the question of the Inter-Governmental contract to cover the supply of mica splittings to the United States of America. He attended the Price Control Conference at Delhi on the 16th and 17th October 1941 and the first meeting of the Groundnut Committee on the 18th October 1941. In January 1942, he attended the Central Sugar Advisory Board Meeting, the Labour Ministers' Conference and the Conference of Provincial representatives and experts to consider the cost of living-index numbers held at New Delhi. In March 1942 he attended the conference on the organization of small-scale industries held at New Delhi for the production of war supplies.

STATUTORY BOARD OF INDUSTRIES.

6. There was a slight change in the personnel of the Board of Industries during the year. Sri Vavilla Venkateswara Sastrulu who vacated his seat on the Board on account of efflux of time on 9th March 1942 was re-nominated by the Government for a further term of three years. The composition of the Board of Industries at the close of the year under report was as stated in the last report.

One meeting of the Board of Industries was held on the 31st October 1941 at which the following applications under the Act were considered :—

- (1) Application from the Andhra Pharmaceutical Works, Limited, Bezwada, for the guarantee, for a period of five years, of an overdraft of Rs. 20,000 with a bank.
- (2) Application from the Metal Industries, Limited, Shoranur, Malabar district, for aid to an extent of Rs. 25,000

for the purpose of expanding the manufacture of edge tools, agricultural implements, estate tools, artisans tools, cutlery, scissors, locks, household utensils, etc.

- (3) Application from Sri Gollapudi Sitarama Sastri, Vinayashramam, via Ponnur, Guntur district, for a loan of Rs. 2,000 and overdraft or cash credit of Rs. 2,000 and a grant of Rs. 1,000 aggregating to Rs. 5,000 for the purpose of developing the manufacture of different kinds of inks.
- (4) Application from Sri Suryanarayana Pothapragada, Proprietor, S.R.P. Works, Rajahmundry, for a loan of Rs. 5,000 for the purpose of setting up a type-foundry as an auxiliary industry to his press at Rajahmundry.
- (5) Application from Sri R. Krishnamurthi Ayyar, Brodie's Road, Mylapore, Madras, for a loan of Rs. 2,500 for the purpose of developing the manufacture of hosiery goods.
- (6) Application from the Wunnava Clinic and Laboratories, Limited, Rajahmundry, East Godavari district, for a loan of Rs. 7,500 for the purpose of developing the manufacture of tablets, pharmaceutical products, biological products, glass ampoules, toilets and perfumery.
- (7) Application from Sri Segri Seetharama Karanath, Proprietor, Master Printers, Udipi, South Kanara district, for a loan of Rs. 2,500 for the purpose of starting a printing press at Udipi.
- (8) Application from the Madura Manufactures, Limited, Manamadurai, Ramnad district, for a loan of Rs. 7,000 for the purpose of developing the manufacture of tiles and other terra cotta wares.
- (9) Application from Sri Theruvathu Raman, Paniankaramsam, Kallai post, Calicut, for a loan of Rs. 600 for the purpose of developing his envelope-making industry.
- (10) Application from Sri V. M. V. Chokkalinga Nadar, Proprietor, Ginning Factory, Sattur, Ramnad district, for a loan of Rs. 6,000 for the purpose of developing cotton ginning, groundnut decorticating and groundnut oil manufacturing industries.
- (11) Application from Ghouse Mohideen Sahib, General Merchant, East Gate, Tanjore, for a loan of Rs. 500 for the purpose of developing the manufacture of beedies, cigars and scented sticks.
- (12) Application from Sri L. R. Ramiah Nadar, Manager, Ramar School, Sendamaram post, Tinnevely district, for a loan of Rs. 2,000 for the purpose of starting a match factory.

(13) Application from Sri T. G. Natesam Pillai, Proprietor, Messrs. N. G. Murthi and Brothers, Swadeshi Button Manufacturers, Keerakara street, Salem, for a loan of Rs. 200 for the purpose of expanding his button manufacturing industry.

(14) Application from Sri M. Arunachalam Pillai, Proprietor, Karthikeyan Button Works, Keerakara street, Salem, for a loan of Rs. 200 for the purpose of expanding his button manufacturing industry.

(15) Application from Sri M. Doraikannu Pillai, Proprietor, Messrs. S. D. Krishna and Company, Button Works, Keerakara street, Salem, for a loan of Rs. 300 for the purpose of expanding his button manufacturing industry.

(16) Application from Sri K. Suryanarayana, Old Ponnur, Ponnur post, Guntur district, for a loan of Rs. 500 and a subsidy of Rs. 15 per mensem for a period of one year to commence with, for the purpose of starting an oil-pressing industry.

(17) Application from Sri Ramaswami Chettiyar, Proprietor, Swadeshi Button Works, Pannapatti, Omalur taluk, Salem district, for a loan of Rs. 200 for the purpose of expanding his button manufacturing industry.

(18) Application from Syed Abdul Lateif, Proprietor, Messrs. S. A. L. Subedar and Company, Hosiery Manufacturers, No. 12, Noorullapet, Ambur, North Arcot district, for a loan of Rs. 200 for the purpose of developing the hosiery-knitting industry.

(19) Application from the Gandhi National Tanning and Shoe-making Co-operative Purchase and Sale Society, Limited, Ellore, West Godavari district, for a subsidy of Rs. 600 for the purpose of developing the tanning and shoe-making industry on a cottage basis.

7. Of these 19 applications, 8 applications were recommended by the Board for the grant of aid, details of which are given in the following statement:—

Name of applicant or concern.	Amount of aid recommended by the Board.	Amount sanctioned by the Government.	Amount disbursed during the year.	Remarks.
1. The Andhra Pharmaceutical Works, Limited, Bezwada.	Overdraft of Rs. 20,000.	..	..	Under consideration of Government.
2. The Metal Industries, Shoranur, Malabar district.	Loan of Rs. 25,000.	Loan of Rs. 25,000.	Rs. 25,000.	..

Name of applicant or concern.	Amount of aid recommended by the Board.	Amount sanctioned by the Government.	Amount disbursed during the year.	Remarks.
3. Sri Gollapudi Sitarama Sastri, Vinayashramam, viz. Ponnur, Guntur district.	Aid of Rs. 5,000.	Rs. 4,000 ..	..	Title-deed under examination.
4. Sri T. G. Natesam Pillai, Proprietor, Messrs. N. G. Moorthy & Bros., Swadeshi Button Manufacturers, Keerakara Street, Salem.	Loan of Rs. 200.	Loan of Rs. 200.	Rs. 200.	..
5. Sri M. Arunachalam Pillai, Proprietor, Karthikeyan Button Works, Keerakara Street, Salem.]	Loan of Rs. 200.	Loan of Rs. 200.	Rs. 200.	..
6. Sri M. Doraikannu Pillai, Proprietor, Messrs. S. D. Krishna & Co., Button Works, Keerakara Street, Salem.	Loan of Rs. 300.	Loan of Rs. 300.	Rs. 300.	..
7. Sri Ramaswami Chettiyar, Proprietor, Swadeshi Button Works, Pannapatti, Omalur taluk, Salem district.	Loan of Rs. 200.	Loan of Rs. 200.	..	The Society has refused to sign the surety bond and the matter is under correspondence.
8. Messrs. The Gandhi National Tanning and Shoe-making Co-operative Purchase and Sale Society, Limited.	Grant of Rs. 600.	Rs. 600 ..	Rs. 600.	..

The Board was unable to recommend the remaining applications and accordingly they were rejected by the Government, the main reasons for rejection being the inadequacy of the security offered, or the apparent incapacity of the applicants to establish and run the industries successfully.

8. The loan of Rs. 500 granted in the previous year to Sri P. C. Muniswami Nayakar, Mattam village, Tiruttani, Chittoor district, was disbursed during the year while the loan of Rs. 500

sanctioned to Sri V. Sivaram Bhat, Hospet, Bellary district, was cancelled as the applicant could not get his father to sign the mortgage along with him.

9. The total amount of loans disbursed during the year was Rs. 26,200 as against Rs. 74,500 disbursed in the year 1940-41. Besides this a non-repayable grant of Rs. 600 was disbursed.

10. In connexion with the delegation to the Board of Revenue of Government's powers to grant aid to cottage industries to a maximum of Rs. 500 in each case, a self-contained set of rules on the lines of the rules governing the takkavi loans was issued during the year under review.

11. The following is a brief review of the affairs of the concerns which have received aid under the Act but have not yet discharged it in full :—

(i) *The Metal Industries, Limited, Shoranur.*—The second instalment under the revised system of repayment fell due on the 1st April 1941 and it was paid by the company before the due date. The balance of the loan outstanding was repaid in full on the 30th October 1941, with interest accrued thereon up to the date of payment and their account was closed.

(ii) *Messrs. Boddu Paidanna Sons, Vizianagram.*—The ninth instalment of the loan was due on the 1st April 1941, but on a representation made by the concern, the Government granted them an extension of time up to 1st December 1941 for the repayment of the instalment. The instalment amount, with penal interest, was repaid in two sub-instalments one on 23rd December 1941 and the other on 5th January 1942. The audit report of the concern for the year ending 31st March 1941 showed that the year's working of the business resulted in a net loss of Rs. 9,118-8-0. The excess of liabilities over assets on 31st March 1941 was Rs. 77,819-11-3 as against Rs. 68,177-7-3 on 31st March 1940. The financial position of the concern has not improved during the year.

(iii) *Sree Ramakrishna Sugar Mills, Kirlampudi, East Godavari district.*—The management repaid the fifth instalment of the loan before the due date. The audit report of the concern for the year ending 31st October 1941 has not been received yet.

(iv) *The Kollegal Silk Filatures, Limited, Kollegal.*—The working of the concern for the 14 months ending 30th June 1941 resulted in a net loss of Rs. 20,023-4-2. The insurance of the concern continued to be effected regularly. The Government have ordered that the Sericultural

Expert, Kollegal, should serve on the Board of Directors of the Company in place of the Director of Industries and Commerce.

(v) *The Button Manufacturers Co-operative Production and Sale Society, Tiruppanangadu, North Arcot district.*—The society did not earn any profit during the year 1940-41. The value of the society's machinery and other tools has been put down as Rs. 229 and the subsidy granted by the Government continued to be properly covered.

(vi) *Sri K. Subbarayudu, Toy Maker, Kondapalli, Kistna district.*—The balance due out of the second instalment of the loan was repaid during the year. A portion of the third instalment of the loan due on 15th March 1941 has also been collected. The fourth and final instalment of the loan which was due on 15th March 1942 remained unpaid, at the close of the year. Steps are being taken to collect the outstandings. The statement of income and expenditure and assets and liabilities relating to the concern for 1939-40 were found defective and revised statements have been called for.

(vii) *Sri M. Raghurama Raju, Apiary, Courtallam, Tinnevely district.*—The third instalment of the loan which fell due on 1st June 1941 was repaid by the borrower before the due date. The revised statements of assets and liabilities for the year ending 31st March 1941 called for from the borrower have not yet been received.

(viii) *Messrs. K. V. Ratnam and Brothers, Fountain-pen Manufacturers, Rajahmundry.*—The fourth instalment of the loan which fell due on 1st September 1941 was paid and the renewal of the insurance was duly effected. The working of the concern during the year ended 31st December 1940 resulted in a net profit of Rs. 2,472-1-0 as compared with a profit of Rs. 2,754-1-4 in the previous year.

(ix) *Sri G. V. Venkataratnam, Proprietor, the Industrial and Scientific Works, Coimbatore.*—The third instalment of the loan was not repaid on the due date and was collected in full from the borrower in sub-instalments with penal interest. The renewal of the insurance of the concern was duly effected for another year. The audit report and the statements of accounts called for for the year 1941 have not yet been received.

(x) *Sri S. L. Venkatachalapathi, Gold Thread Manufacturer, Kumbakonam.*—The second instalment of the loan which fell due on 15th April 1941 was repaid one day late and penal interest due thereon was collected from the borrower. The renewal of the insurance was duly effected for another year. Statements of accounts of the business for the year

ending 12th April 1941 showed that the working of the concern during the year resulted in a net loss of Rupees 944-15-1 as against a loss of Rs. 1,622-12-8 for the previous year.

- (xi) *Mr. S. T. David, Proprietor, The Bone Mill, Ennore.*—Neither the balance of the first instalment nor the second instalment which fell due on 1st May 1941 was repaid by the borrower who is now reported to be employed in the Gun Carriage Factory, Jubbulpore. As the borrower defaulted in the payment of the instalments, the Collector has been asked to recover the entire outstandings due from the borrower. The mill is locked and is not working.
- (xii) *Sri M. Ratnam, Ratnam Industrial Works, Vepery, Madras.*—The second instalment of the loan which fell due on 1st June 1941 was repaid on the next day and the penal interest due was collected from the borrower. The renewal of the insurance policy was duly effected. The working of the concern during the year ending 31st May 1941 continued to be satisfactory.
- (xiii) *Sri A. Dharmaraju, Associated Home Industries, Vizagapatam.*—The second instalment of the loan fell due on 1st June 1941 and had to be collected in instalments with penal interest. There was a small balance still due at the end of the year under report from the borrower. The renewal of the insurance has been effected. The concern continued to work profitably.
- (xiv) *Sri S. M. Ramalingam Pillai, Proprietor, Dairy Farm, Melacheval, Tinnevely district.*—The second instalment of the loan which fell due on 1st December 1941 was repaid on 8th December 1941 and the penal interest due was also paid. The periodical inspection reports of the officer of the Veterinary department show that the concern is working satisfactorily. The insurance of the assets of the concern has not yet been effected, nor has the audit report been received.
- (xv) *Sri G. Chaganlal, Proprietor, The Damodhar Envelope Factory, Madras.*—The second instalment of the loan which fell due on 1st December 1941 was repaid by the borrower by the due date. The renewal of the insurance was duly effected. The working of the concern during the year ended 31st March 1941 resulted in a net profit of Rs. 11,470-13-5 against Rs. 1,506-8-0 earned during the previous year.
- (xvi) *Sri Mittadoddi Rama Rao, The Hygienic Bread Factory, Nellore.*—In pursuance of the order of the Government, the entire balance of the loan has been repaid by the borrower during the year.

- (xvii) *The Surgical Cotton Mills, Limited, Rajapalayam.*—The concern earned a profit of Rs. 14,364-14-3 for the period ending 31st May 1942 and the Board of Directors have declared an interim dividend of 6 per cent for the half-year ending 31st March 1942.
- (xviii) *The Quilandy Artisans' Co-operative Society, Limited, North Malabar.*—A portion of the non-recurring subsidy disbursed to the society has been utilized during the year and the question of the utilization of the balance is under consideration.
- (xix) *The Santhapet Basket Makers' Co-operative Society, Limited, Chittoor.*—The balance amount out of the subsidy granted to the society was utilized during the year in full.
- (xx) *The Madras Enamel Works, Limited, Madras.*—The concern has repaid the entire loan granted by the Government during the year.
- (xxi) *Sri K. Hari Nagesha Bhat, Proprietor, Kohinoor Industries, Kallianpur, South Kanara district.*—The first instalment of the loan due on 1st November 1941 was repaid before the due date. The receipt of the latest statement of accounts is awaited.
- (xxii) *The Industrial Engineers and Merchants, Limited, Bezwada.*—The first instalment which fell due on 15th February 1942 was repaid before the due date. The latest audit report of the concern is awaited.
- (xxiii) *The Andhra Scientific Company, Limited, Masulipatam.*—The insurance of the concern was duly effected. The company earned a profit of Rs. 38,050-4-3 during the year ended 31st March 1941. The first instalment of the loan fell due on 1st April 1942 but was repaid before the due date.
- (xxiv) *The Puttur Taluk Co-operative Bee-Keeping, Honey Production and Sale Society, Limited, Chokkadi, South Kanara district.*—The free grant of Rs. 100 paid to the society has been utilized in full by the society during the year under review.

BUREAU OF COMMERCIAL INTELLIGENCE AND STATISTICS.

12. Sri N. K. Adyanthaya continued to hold charge of the Bureau of Commercial Intelligence and Statistics. He also continued to serve as a member of the Prices Advisory Committee for Madras City. In January 1942 he attended the Conference at New Delhi of Provincial representatives and experts to consider the question of the preparation and maintenance of cost of living indices in a uniform basis.

13. The number of enquiries—both postal and verbal—received from the general public in regard to industrial and commercial questions was very large and these included several enquiries arising out of the war. A number of references was, as usual, received from the Director-General of Commercial Intelligence and Statistics, Calcutta, in regard to overseas trade in general, or with reference to the financial standing and business reputation of firms and individuals who wished to secure overseas trade introductions. The Director-General of Commercial Intelligence and Statistics, Calcutta, continued to be supplied with a monthly review of trade conditions in the Madras Province and this report was reproduced in the *Fort St. George Gazette* and in some of the local newspapers and trade journals whilst copies were supplied to various officers of Government and to other authorities. This report was discontinued from December 1941. In connexion with the application of certain firms and individuals in this province for inclusion in the list of approved contractors for the supply of articles and stores to the Supply Department including the Indian Stores Department and the Contracts Directorate, the officers of these departments were supplied with reports based on an inspection of the firms' works as to their capacity, financial standing, quality of the articles manufactured and their suitability generally for inclusion in the list of approved contractors. Several enquiries were received from the Controller of Supplies, South India Circle, with regard to the sources of supply of articles required for war purposes and dealt with. The annual return of large industrial establishments coming under the operation of the Indian Factories Act, 1934, was, as usual, compiled. Summaries on the subjects of manufactures and mines and quarries were also prepared for inclusion in the Administration Report of the province.

14. *Agricultural statistics—Crop forecasts.*—Forty-three reports in all were issued in the course of the year forecasting the area and yield of paddy, cholam, cumbu, ragi, korra, varagu, samai, horsegram, greengram, redgram, blackgram, sugarcane, groundnut, gingelly, castor, cotton, pepper, ginger and senna during the growing period. The areas estimated in 1940-41 differed from the actuals in the season and crop report by 0.1 per cent in the case of sugarcane and pepper, 0.2 per cent in the case of cholam, 0.6 per cent in the case of varagu, 2.0 per cent in the case of cotton, 2.6 per cent in the case of paddy, blackgram, ragi and groundnut, 3.0 per cent in the case of cumbu, 3.5 per cent in the case of samai, 4.2 per cent in the case of korra, 4.3 per cent in the case of gingelly, 4.9 per cent in the case of senna, 5.0 per cent in the case of greengram and ginger, 6.3 per cent in the case of castor and 9.0 per cent in the case of redgram. Five forecasts reports on the sowing and condition of Virginia and country tobacco during September to January in the districts of East Godavari, West Godavari, Kistna and Guntur and in the Kandukur taluk of the Nellore district were also prepared during the year and copies of these reports were sent

to (i) the President, the Indian Tobacco Association, Guntur, (ii) the Secretary, Tobacco Federation of the British Empire, London, (iii) the High Commissioner for India, London and (iv) the Under Secretary, Imperial Council of Agricultural Research. As requested by the Secretary, Imperial Council of Agricultural Research, the estimated outturn was given both in terms of cane and in terms of gur in the final forecast report on sugarcane for 1941-42.

15. *Census of livestock.*—A report on the livestock census held in January 1940 embodying a review of the census figures was submitted to the Government. The publication of the report has been deferred for the present.

16. *Imports of paddy and rice.*—Quarterly reports on the imports of paddy, rice and broken rice into this Province were submitted to the Government. Imports of broken rice, rice and paddy in terms of rice into the Madras Province in 1941-42 totalled 251,036 tons, after making an allowance for the portion of the imports into Cochin likely to be re-exported to the Madras Province. The imports in 1941-42 represented a fall of 43.3 per cent as compared with those in 1940-41. Of the imports in 1941-42, 37,487 tons or 14.9 per cent comprised the imports by rail and the remaining 213,549 tons or 85.1 per cent the imports by sea. An analysis of the imports in terms of rice by rail according to the main places of origin revealed that in 1941-42, 26,120 tons or 69.7 per cent originated from Orissa, 4,276 tons or 11.4 per cent from Mysore, 3,005 tons or 8.0 per cent from Bengal and 2,211 tons or 5.9 per cent from the Central Provinces and Berar. As regards imports by sea, Burma accounted for 211,896 tons or 99.2 per cent of the imports in 1941-42. Sind for 931 tons or 0.5 per cent and Bombay for the remaining 720 tons or 0.3 per cent. The share of Burma was 89.9 per cent in 1940-41, 72.6 per cent in 1939-40, 93.4 per cent in 1938-39 and 97.4 per cent in 1937-38.

17. *Periodical price reports.*—The Government have ordered the submission of an annual report on prices for the financial year beginning with 1941-42, required in connexion with the report of the Provincial Government to the Government of India on the prevailing agricultural situation and the measures adopted to relieve agricultural distress, instead of a half-yearly report as in previous years and the report for 1941-42 was submitted to the Government. The publication of (i) the statement of wholesale prices for each week in the *Fort St. George Gazette* in the amplified form and (ii) the statement of retail prices of commodities prevailing during the last week of each month and the preparation of a monthly statement of the retail prices of food-grains and salt were continued. Periodical reports on the prices of tea, coffee and rubber continued to be sent to the Collector of the Nilgiris. Weekly reports on the prices of paddy and rice also continued to be sent to the Secretary, Imperial Council of Agricultural Research. A monthly report on the prices of fine-cured, Virginia and sun-cured country tobacco at

Guntur was sent to the Indian Government Trade Commissioner at Alexandria. A report on the prices of commodities in the province was submitted to the Government each quarter.

18. *Investigations on the increase in the prices of commodities.*—Several enquiries into the undue rise in the prices of commodities were instituted in the year under review and some of the more important of the commodities to which the investigations related were the following:—

- (i) Iron and steel, (ii) cement, (iii) yarn, (iv) charcoal, (v) electrical goods, cycles and accessories and (vi) bricks.

19. *Returns of prices prescribed as a result of war conditions.*—With a view to enabling the Government to watch the trend of prices and stocks of essential commodities, the following reports were submitted: (1) a statement of daily wholesale prices of some important commodities in Madras city, (ii) a weekly return of daily retail prices of essential commodities in Madras city, (iii) a fortnightly statement of wholesale prices of important commodities in Madras city, (iv) a monthly statement of imports of paddy and rice by sea into the different ports of the province, (v) a weekly statement with a review of the index numbers of wholesale prices of (a) food-grains, (b) commercial products and (c) all articles in the Province of Madras, (vi) a weekly statement of the exports of groundnut from the Madras port and the stocks of groundnut in the Madras Port Trust warehouses (discontinued since February 1942), (vii) a monthly statement of foreign exports of groundnut, groundnut-oil and cake (discontinued since January 1942) and (viii) a monthly statement of coastwise exports of groundnut (discontinued since January 1942).

20. *Cost of living index numbers.*—Cost of living index numbers for Madras city and for eight mufassal centres continued to be compiled and published in the *Fort St. George Gazette* during the year. The index number for Madras city declined from 109 in April 1941 to 108 in May 1941 and after rising to 121 in December 1941 declined to 115 in February 1942 and remained at that level in March 1942.

21. *Index number of wholesale prices for Madras city.*—The compilation of the index number of wholesale prices of commodities for Madras city and its publication in the *Fort St. George Gazette* were continued during the year. Wholesale prices of commodities in Madras city were characterized by a gradual and steady rise during the year. The index dropped from 129 in April 1941 to 128 in May 1941 and then rose steadily to 158 by December 1941 and after a slight fall returned to 158 by March 1942. The component index numbers for food articles and for non-food articles followed much the same course as the general index. The index for food articles stood at 109 during April and May 1941, then rose by varying degrees to 133 by December 1941 and after a slight fall

returned to 133 by March 1942. The index for the non-food articles declined to 140 in May 1941 from 141 in April 1941, then rose to 174 by December 1941 and after a slight fall returned to 174 by March 1942.

22. *Index numbers of declared values of imports and exports for the Madras Province.*—The index numbers of declared values of imports and exports continued to be compiled and published in the *Fort St. George Gazette*. These index numbers which are based on practically the whole range of articles entering into the trade of the province and subject to extremely variable world conditions, showed, as was to be expected, wide fluctuations. On the whole, the index number of declared values of foreign imports moved upwards; the index rose from 138 in April 1941 to 169 in March 1942. The index number of declared values of foreign exports declined from 102 in April 1941 to 95 in May 1941 and after fluctuating between 102 and 114 stood at 107 in March 1942. The index number of declared values of coastwise imports advanced by varying stages from 123 in April 1941 to 179 in January 1942 and declined to 152 by March 1942. The index number of declared values of coastwise exports advanced by varying stages from 108 in April 1941 to 142 in March 1942.

23. *Industrial development.*—There is no doubt that the war has given a stimulus for the starting of new industries in the Province but the progress made in this respect has not been so considerable as one could have wished. The following is a resume of the more important developments. The Mettur Chemical and Industrial Corporation commenced manufacturing operations in July 1941, the capacity of output being 8 tons of super tropical bleaching powder, 3 tons of caustic soda and one ton of liquid chlorine a day under full working conditions. The output of the vegetable ghee plant which is being erected by this factory will be 10 tons a day. The Andhra Paper Mills stopped work from 1st May 1941 and the question of taking over the mills by the Government was under consideration. The Surgical Cotton Mills, Rajapalayam in which company the Government have taken shares worked satisfactorily. The East India Industries (Madras), Limited, continued to work during the year. According to their present condition they are capable of producing 60,000 yards of bituminized paper and 3,000 yards of tar impregnated tarpaulin. The Andhra Scientific Company have utilized the loan granted to them by the Government for the purchase of machinery and have organized the manufacture on a permanent footing, of balances and weights, electrically heated apparatus, like electric heaters, ovens, sterilizers, hot plates, stills and incubators and of chemical plants like autoclaves, distilled water plants and digestors, mixers, stirrers, malt extraction plant, recovery plants, etc. The total output of the Industrial Engineers and Merchants, Limited, was 493 tons as against 456 in the previous year. The mill was working only one shift and producing round bars from $\frac{1}{4}$ inch to 11 inches in multiples

of 1/8 inch in diameter and high carbon crowbars of 1 inch and 1 and 1/8 inch. The National Electric Works, Peelamedu, claims an output of 10 electric motors per week and 1,000 radios per year if valves and speakers are available. In addition to Messrs. Simpson and Company's factory, gas producer works were working in Madura and Bezwada.

24. *War supplies.*—In January 1942 a Special Officer was appointed for conducting a preliminary survey of the possibilities of manufacturing war materials through small scale industries. He visited several centres and contacted various small scale manufacturers. The investigation revealed possibilities of manufacturing cutlery, pith hats, helms and handles and brass and gunmetal articles such as buckles, etc., on a cottage industries basis. After the close of the year proposals were submitted for the creation of a Provincial Agency for the supply of war materials.

25. *Wattle bark.*—In May 1941, the Government of India ordered the despatch to the Harness & Saddlery Factory, Cawnpore, of a quantity of 900 tons of wattle bark from the reserve held in Madras against demands received from the factory and a quantity of 916 tons was despatched by the middle of June. In August, the Government of India ordered that a further quantity of 1,700 tons of wattle bark should be sent to the Harness & Saddlery Factory, Cawnpore, to meet the requirements of the factory for the rest of the year 1941-42 and this was despatched by the beginning of November. A fresh consignment of about 1,700 tons of bark to replace the 1,700 tons sent to Cawnpore was received from South Africa in November. Owing to depletion of stock in Cawnpore an order for the despatch of 150 tons of bark by passenger train was received early in March 1942 and this was despatched. Another order for the despatch of a further quantity of 2,400 tons to Cawnpore was received by the middle of March and a quantity of about 180 tons was despatched by the end of the year. The Government of India ordered that pending further communication in regard to stock-taking, periodical visual examination of the stock should be carried out to ensure the safety of the reserve held and this was done during the year. Shortly after the close of the year it was decided that the Controller of Supplies, Madras, should take over charge of the storage of wattle bark.

26. *Geological surveys of the minerals of the Province.*—The Geological Survey Party detailed for work in the Province of Madras during the field season which commenced during the period under review completed some of the items included in the field season programme including iron and magnetite ores and bauxite of Salem, and gypsum in Nellore. The following new items have been suggested for investigation in the next field season :—

(1) Lead ore deposits in the Ceded districts.

(2) Boring for coal in the Bedadamuru area (East Godavari district).

(3) Systematic examination of the following regions for minerals :

Salem, Trichinopoly, Nellore, Guntur and Ceded districts.

(4) Investigation of porcelain clay in the Ceded districts.

(5) Survey of graphite and mica in the Tinnevely district.

(6) Investigation of occurrences of copper ore in Nellore district, Bensibetta reef in the Coimbatore district and in the hills west of Ipur in the Vinukonda taluk (on the road between Vinukonda and Gurazala in the Guntur district).

(7) Mica deposits in Madeswaranmalai R.F. of Ponnachi village in Coimbatore district.

(8) Examination of Gandikota Dam site (4 miles from Jammalamadugu, Cuddapah district), Ponnar Dam (27 miles from Tiruvannamalai, North Arcot district) and Godavari-Polavaram site (22 miles from Rajahmundry).

27. *Groundnut oil-lamp.*—As the result of experiments carried out in the department, a lamp for burning groundnut oil was evolved successfully, and an application for patenting the lamp was made. Shortly after the close of the year, the application for patent was accepted by the Controller of Patents and Designs.

28. *Central Industrial Museum and District Commercial Museums.*—The Central Industrial Museum completed its third year of existence with a good record of work. The total number of visitors during the year was 10,409 or an average of 33 per working day. A number of new additions were made to the existing exhibits. Out of the grant of Rs. 1,500 made by Government, 29 show cases and 3 benches were purchased. The museum participated in three exhibitions during the year. The South Arcot District Industrial and Commercial Museum got itself affiliated with the Central Industrial Museum this year and the number of affiliated museums on 31st March 1942 was twelve.

Arrangements were made during the year for the display of departmental articles in the museums at Guntur and Salem. These included leather goods manufactured at the Leather Trades Institute range of lacquer ware, silver and enamel metal and leather work and batik hand painted textiles from the School of Arts and Crafts, double tape loom, round ball thread winding charka cheese ball winding charka and cone winding charka from the Government Textile Institute, articles manufactured in the Light Metal Casting section of the Government School of Technology, representative range of products manufactured at the Kerala Soap Institute, Calicut and Sericulture exhibits.

GENERAL REVIEW OF COMMERCIAL AND INDUSTRIAL CONDITIONS.

29. *General.*—Economic conditions all the world over continued in an unsettled state, as the war passing through swift changes, disrupted the already uncertain channels of trade. The entry of

Russia into the war on the allied side imparted confidence. Then came the order freezing Japanese assets, and subsequently the declaration of hostilities by Japan and the extension of war in the Far East. The uncertainty of foreign markets was reflected in the unsteadiness of export prices. The Calcutta index of wholesale prices (July 1941=100) which was 123 in March 1941 rose to 153 in March 1942. The Bombay index number rose from 120 to 197 during the same period and the Karachi Index number from 117 to 123. The index number of wholesale prices of commodities in Madras city advanced from 129 in April 1941 to 158 in March 1942 and the index number of wholesale prices of selected commodities for the Madras Province (21st August 1939=100) increased from 107 in April 1941 to 122 in March 1942, the index number for the foodgrains group rising from 122 to 133 and that for the commercial products group rising from 95 to 111.

30. *Economic conditions in Madras.*—The value of cheques passing through the Madras Clearing House increased from Rs. 1,08,63,75,570 in the year ended 31st March 1941 to Rupees 1,36,42,00,533 in the year ended 31st March 1942. The earnings of the railways were also higher. The total gross earnings of the Madras and Southern Mahratta Railway Company, Limited, increased from Rs. 837 lakhs in 1940-41 to Rs. 987 lakhs in 1941-42, the improvement being due to larger movements of passengers and military traffic and to more credits received on account of indirect charges on work done for Government departments. The gross earnings of the South Indian Railway Company, Limited, also increased from Rs. 614.55 lakhs in 1940-41 to Rs. 725.77 lakhs in 1941-42, the increase being due to cancellation of reduced fares on certain sections, movement of troops and evacuees and greater movements of various commodities consequent on the war.

The table of prices which faces this page will show that the average of cotton, groundnut, pepper, paddy, rice, coir yarn, copra, coconut oil, tobacco, sugar and tanned hides and skins were higher during the year under review than in the previous year. Prices of only jute and castor seed were lower than in the previous year. Values of all commodities with the exception of cotton, paddy and castor seed were standing at higher levels in March 1942 than in the corresponding month of the previous year.

31. *New industrial undertakings.*—One hundred and thirty-three companies were registered during the year of which four were without share capital. The authorized capital of the 129 companies registered with capital amounted to Rs. 200.80 lakhs, the subscribed capital to Rs. 31.32 lakhs and the paid-up capital to Rs. 2.74 lakhs. Of the new registrations with share capital, 73 were trading and manufacturing concerns, 12 were hotels, theatres and entertainment establishments, 11 each banking, loan and insurance companies and mills and presses, 9 transit and

Average monthly wholesale prices of some of the principal commodities in Madras during the year 1941-42.

Commodity. (1)	April. (2)		May. (3)		June. (4)		July. (5)		August. (6)		September. (7)		October. (8)	
	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.
Cotton (Cambodia), Tiruppur, per candy of 520 lb.	222	10 0	223	6 5	231	2 0	259	6 0	267	8 0	261	10 0	252	2 0
Cotton (Karunganni), Tiruppur, per candy of 520 lb.	206	12 0	198	4 9	204	12 0	224	2 0	230	6 5	230	0 0	227	4 10
Groundnut (Nandyal), per candy of 531 lb.	17	0 0	17	3 2	18	6 0	18	14 0	23	0 7	28	0 0	26	9 7
Groundnut (Coimbatore), per candy of 531 lb.	23	6 3	22	8 7	22	5 9	24	6 9	27	15 7	27	12 0	26	0 5
Pepper, Tellicherry, per cwt.	14	12 0	14	3 2	14	7 0	15	3 0	18	1 7	17	0 0	16	14 0
Paddy, Tenali, per bag of 164 lb.	6	11 4	6	6 9	6	7 2	6	12 0	6	14 8	6	13 9	6	13 8
Rice, Tenali, per bag of 164 lb.	9	2 2	9	0 10	9	2 6	9	10 6	10	0 7	10	1 2	10	3 2
Coir yarn, Alleppey, per candy of 672 lb.	33	8 0	33	1 7	32	8 0	31	8 0	34	11 2	35	8 0	37	12 0
Copra, Cochin, per candy of 655 lb.	51	8 0	49	12 10	50	12 0	53	0 0	58	1 7	57	8 0	57	6 5
Coconut oil, Cochin, per candy of 655 lb.	74	0 0	70	3 2	71	12 0	78	10 0	88	12 0	88	4 0	87	7 2
Jute, Vizianagram, per candy of 506 lb.	27	0 0	25	0 0	33	12 0	30	0 0	38	6 5	46	0 0	41	9 7
Tobacco, Erode, per maund of 28 lb.	4	4 0	4	8 0	4	8 0	4	8 0	4	8 0	4	8 0	4	8 0
Castor seed per maund of 82-2/7 lb.	3	8 8	3	9 1	3	9 1	3	9 1	4	10 3	4	8 2	4	1 9
Nellikuppam sugar per cwt.	13	10 0	13	9 11	14	1 4	14	15 3	14	14 4	14	6 7	14	6 0
Tanned cow hides—Bangalore 8-8½ lb. per lb.	0	11 10	0	11 10	0	12 6	0	13 3	0	13 3	0	13 3	0	13 9
Up countries 8-8½ lb. per lb.	0	11 8	0	11 8	0	12 2	0	12 8	0	12 5	0	12 9	0	13 3
Coats 7-7½ lb. per lb. . .	0	11 6	0	11 6	0	12 4	0	13 3	0	13 0	0	13 1	0	13 9
Tanned goat skins—Good	1	4 0	1	5 2	1	6 5	1	8 10	1	9 0	1	9 0	1	13 3
Fair	1	2 10	1	3 8	1	4 2	1	6 1	1	6 1	1	6 1	1	9 9
Common	1	0 4	1	1 1	1	1 11	1	3 4	1	3 6	1	3 6	1	6 3
Tanned sheep skins—Good	1	3 6	1	4 0	1	4 8	1	7 0	1	6 7	1	5 0	1	7 10
Fair	1	1 7	1	2 7	1	3 4	1	5 5	1	4 10	1	3 0	1	5 5
Common	1	0 0	1	0 6	1	0 10	1	2 1	1	1 9	1	1 0	1	3 4
Average of the monthly prices for 1940-41.														
Average of the monthly prices for 1941-42.														
Commodity.	November. (9)		December. (10)		January. (11)		February. (12)		March. (13)		Average of the monthly prices for 1940-41. (14)		Average of the monthly prices for 1941-42. (15)	
	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.
Cotton (Cambodia), Tiruppur, per candy of 520 lb.	260	8 0	274	0 0	253	12 10	219	14 0	190	10 0	198	3 5	243	0 9
Cotton (Karunganni), Tiruppur, per candy of 520 lb.	299	14 0	246	8 0	225	4 10	204	12 0	184	8 0	179	1 6	217	11 5
Groundnut (Nandyal), per candy of 531 lb.	29	11 0	31	8 0	30	6 5	29	8 0	29	6 6	22	1 1	25	0 2
Groundnut (Coimbatore), per candy of 531 lb.	28	2 9	29	1 0	28	2 7	29	11 6	32	1 0	23	5 5	26	12 10
Pepper, Tellicherry, per cwt.	16	4 0	16	13 4	17	1 7	18	2 0	18	10 0	15	6 2	16	7 4
Paddy, Tenali, per bag of 164 lb.	7	0 11	7	6 10	6	7 11	6	7 8	6	10 7	6	2 5	6	12 1
Rice, Tenali, per bag of 164 lb.	10	8 9	11	0 0	10	3 9	10	0 0	10	0 0	8	5 3	9	14 9
Coir yarn, Alleppey, per candy of 672 lb.	45	4 0	47	2 8	45	3 2	45	4 0	47	4 0	38	14 3	39	0 11
Copra, Cochin, per candy of 655 lb.	57	8 0	61	0 0	61	9 7	63	0 0	69	8 0	52	4 8	57	8 10
Coconut oil, Cochin, per candy of 655 lb.	88	3 0	94	0 0	92	9 7	95	4 0	105	4 0	76	14 1	86	3 1
Jute, Vizianagram, per candy of 506 lb.	44	0 0	39	10 8	34	3 2	33	0 0	31	12 0	45	0 5	36	9 10
Tobacco, Erode, per maund of 28 lb.	4	8 0	4	8 0	4	8 0	4	8 0	4	8 6	3	6 10	4	7 9
Castor seed per maund of 82-2/7 lb.	4	3 2	4	8 2	4	8 2	4	8 2	4	8 2	5	4 6	4	2 4
Nellikuppam sugar per cwt.	14	13 0	Not quoted.		16	8 0	17	4 6	17	12 10	14	12 8	15	2 0
Tanned cow hides—Bangalore 8-8½ lb. per lb.	0	14 3	0	13 11	0	13 5	0	13 5	0	13 9	0	12 6	0	13 2
Up countries 8-8½ lb. per lb.	0	13 11	0	13 5	0	12 11	0	12 11	0	13 3	0	12 3	0	12 9
Coats 7-7½ lb. per lb. . .	0	14 3	0	13 11	0	13 5	0	13 5	0	13 7	0	12 5	0	13 1
Tanned goat skins—Good	2	1 5	1	13 7	1	12 6	1	13 7	1	12 6	1	4 11	1	10 5
Fair	1	14 1	1	11 0	1	10 7	1	12 0	1	9 3	1	3 5	1	8 0
Common	1	10 7	1	7 0	1	6 11	1	8 10	1	7 4	1	2 3	1	5 1
Tanned sheep skins—Good	1	9 0	1	6 9	1	5 7	1	5 5	1	5 3	1	5 2	1	5 11
Fair	1	5 0	1	3 2	1	3 0	1	4 4	1	3 4	1	3 2	1	3 9
Common	1	3 6	1	2 1	1	1 9	1	3 4	1	1 11	1	1 4	1	1 10

transport companies, 5 mining and quarrying concerns, 3 each tea and other planting companies and estate land and building companies and 2 others. The companies floated with the largest capital were—

	LAKHS.
K.C.P., Ltd.	RS. 22
Shree Baj Rang Mills, Ltd.	15
Vanguard Fire and General Insurance Co., Ltd. }	
Jaya Lakshmi Mills, Ltd.	10.1
Tobacco Growers, Ltd.	10
Royalaseema Vegetable Products, Ltd. }	
Somasundaram Mills, Ltd.	6.5
A. V. Thomas & Co. (India), Ltd.	5
Kerala Corporation, Ltd.	
South India Satsang Stores, Ltd.	
India Textiles and Exports, Ltd.	
Reliance Motor Company, Ltd.	
Kerala Timber Supply Corporation, Ltd. }	3
Jayanthi Ramachandrappa Supply Mills, Ltd. }	
Tuticorin Milk and Food Products, Ltd. }	2.5
Sri Choksa Finance Corporation, Ltd. }	
Deccan Chemicals, Ltd.	2
North Arcot Transport, Ltd.	
Associated Mica Supplies, Ltd.	
Kanara Land Company, Ltd.	
Madras Select Films, Ltd.	
Sri Meenakshi Films, Ltd.	
Madura Sundaram Transport, Ltd.	
Ananda Palayakot Company, Ltd.	
Arcot Palayakat Company, Ltd.	
Murugappa Agencies, Ltd.	
Biological and Chemical Laboratories, Ltd. }	

32. *Mining operations.*—The following prospecting licences and mining leases were granted during the Calendar year 1941 :—

	ACS.
Forty-six prospecting licences for prospecting for barytes over an area of	2,682.07
Twenty-one prospecting licences for prospecting for mica over an area of	376.70
Six prospecting licences for prospecting for barytes and asbestos over an area of	1,669.62
Four prospecting licences for prospecting for red oxide of iron over an area of	989.75
Three prospecting licences for prospecting for iron ore over an area of	1,580.00
Two prospecting licences for prospecting for quartz, garnet, emery, corundum and kyanite over an area of	651.14
Two prospecting licences for prospecting for limestone over an area of	14.05

	ACS.
One prospecting licence for prospecting for manganese over an area of	601.00
One prospecting licence for prospecting for gypsum, phosphatic nodules, celestite and strontianite over an area of	425.35
One prospecting licence for prospecting for strontianite and celestite over an area of	152.45
One prospecting licence for prospecting for calcite over an area of	63.07
One prospecting licence for prospecting for copper, lead, red oxide and chromite over an area of	35.12
One prospecting licence for prospecting for chromite, platinite, corundum, quartz, alluminite over an area of	20.51
One prospecting licence for prospecting for barytes and red oxide of iron over an area of	14.65
One prospecting licence for prospecting for steatite over an area of	8.20
One prospecting licence for prospecting for diamonds and corundum over an area of	3.03
Five mining leases for working mica over an area of	257.30
Five mining leases for working barytes over an area of	187.04
Two mining leases for working limestone over an area of	274.57
One mining lease for working chromite over an area of	140.00
One mining lease for working red oxide of iron over an area of	110.00

Mining was carried on in the districts of Vizagapatam, Kistna, Kurnool, Anantapur, Cuddapah, Nellore, Chingleput, Salem, Coimbatore, Trichinopoly and the Nilgiris.

33. *Manganese.*—The mining of Manganese was carried on in the districts of Vizagapatam and Bellary. The total production in the Province declined from 29,536 tons to 14,625 tons. Exports of Manganese ore declined from 337,919 tons valued at Rs. 99.44 lakhs to 211,060 tons valued at Rs. 75.70 lakhs.

34. *Magnesite.*—The output of Magnesite declined from 37,305 tons to 36,527 tons. Exports of Magnesite declined from 331,331 cwt. valued at Rs. 12.53 lakhs to 284,567 cwt. valued at Rs. 7.76 lakhs.

35. *Mica.*—The production of dressed mica in the Nellore district declined from 998 tons to 711 tons, but that of waste mica increased from 723 tons to 1,036 tons. The output of mica in the Nilgiris rose from 6.7 tons to 18.33 tons. There was no production of mica in the Vizagapatam district and the output in the Salem and Anantapur districts was negligible. Exports of all grades of mica advanced from 10,862 cwt. valued at Rs. 13.64 lakhs to 18,786 cwt., valued at Rs. 25.24 lakhs.

36. *Other minerals.*—The production of Barytes in the three districts of Anantapur, Cuddapah and Kurnool rose from 15,871 tons to 17,047.5 tons, Cuddapah contributing 8,152 tons, Anantapur 7,445.5 tons and Kurnool 1,450 tons. The production of asbestos declined from 35 tons to 29 tons. The output of steatite rose from 5.7 tons to 36.36 tons. The output of gypsum and phosphatic nodules in the Trichinopoly district decreased from 18,753.83 tons and 117 tons respectively to 17,138 tons and 51 tons respectively. The production of kyanite in Nellore district rose from 3.85 tons to 110 tons. There was an output of 0.02 ton of corundum in Salem district, 3.98 tons of garnet in the Nellore district and 29 tons of celestite in the Trichinopoly district. The output of limestone in the Coimbatore district by the Associated Cement Company, Limited, decreased from 163,290 tons to 152,986 tons.

37. *Cotton.*—The area under cotton in this Province in 1941-42 was estimated at 2,541,400 acres representing an increase of 4.1 per cent as compared with the finally recorded area of 2,440,464 acres in 1940-41. The yield was estimated at 559,700 bales of 400 lb. lint as against 533,630 bales in the previous year, representing an increase of 4.9 per cent. Exports of raw cotton declined from 25,848 tons valued at Rs. 172.20 lakhs to 6,014 tons valued at Rs. 53.85 lakhs representing a decline of 76.7 per cent in quantity and 68.7 per cent in value. Prices of Cambodia at Tiruppur advanced more or less steadily up to December whereafter there was a decline. The price in the last week of March 1942 was only 62 per cent of that ruling in the first week of December 1941.

38. *Cotton spinning and weaving industry.*—There were 59 cotton mills at work in the Province with 1,415,234 spindles and 6,215 looms. Exports of cotton goods by sea to foreign countries decreased from 72.20 million yards valued at Rs. 276.64 lakhs to 65.62 million yards valued at Rs. 271.04 lakhs. Exports of cotton twist and yarn amounted to 11.52 million lb. valued at Rs. 78.68 lakhs. South Indian Mills generally undertook more war work in 1941-42 than in the previous year although most of these mills remained free to sell the bulk of their output to the market at profitable rates. Exports to India from Japan stopped nearly six months before her entry into the war leaving an additional demand to be met by the Indian Textile Industry, but this benefit was reduced to some extent by the subsequent loss of export markets and India's shipping difficulties. The general position of the cotton spinning industry during the year was good throughout the year taking into account the orders on their books and the selling prices but the chief difficulty at present is the transport of yarn against sales made. The prices of yarns increased by from 55 to 65 per cent during the year.

39. *Hosiery.*—There were fifteen organized hosiery factories coming under the Indian Factories Act in operation during the year. The position of the industry improved steadily during the year.

40. *Jute.*—Four jute mills were in operation during the year. The position of the industry was good throughout the year and the prices and demand were steady. Some mills in this Province started working increased working hours by shifts to meet the demand necessitated by war conditions.

41. *Tanning industry—General.*—Exports of tanned hides declined from 18,444 tons valued at Rs. 403.12 lakhs to 15,612 tons valued at Rs. 346.48 lakhs. Exports of tanned skins advanced from 2,450 tons valued at Rs. 109.85 lakhs to 3,271 tons valued at Rs. 157.61 lakhs. Exports of hides (raw) amounted to 12 tons valued at Rs. 0.15 lakh and of skins (raw) to 5,368 tons valued at Rs. 59.25 lakhs. The Madras wholesale price index (August 1939=100) for tanned cow hides advanced from 117 in April 1941 to 134 in March 1942, the index for tanned goat skins advanced from 78 to 109 and the index for tanned sheep skins from 85 to 93.

42. *Tanned cow hides, buffalo hides, buffalo calf skins and cow calf skins.*—Fixed maximum prices were maintained throughout the period by the Hides Controller in London at the levels fixed in December 1940. Demand remained good and prices in the Madras market were affected by other factors such as availability of freight space and the financial position of traders. There was also a considerable demand from the Department of Supply in India for certain grades of hides which caused prices here and there to exceed the London limits. There was also a good demand from New York during the period under review.

43. *Tanned goat and sheep skins.*—Demand for tanned goat skins in the United Kingdom was limited and controlled by Government both as to price and volume. Shipments to London were only 27 to 28 per cent of the pre-war yearly average. There were however substantial shipments of tanned goat skins to the United States of America, a trade which only came into being during the war. Tanned sheep skins were exported to the United Kingdom in large quantities but there was very little trade with the Atlantic Ports of the United States of America. The demand in India for tanned sheep skins suitable for jerkins was considerable.

44. *Dry salted goat skins.*—There was a large trade in these skins with the tanning centres in the United States of America. Shipments were made both from Madras and Bombay, the monthly figures approaching 1,000 bales probably.

In the first quarter of 1942, the difficulties of the trade in tanned goods began to increase and the year ended with a most uncertain outlook for the export trade in leather.

The demand for bark-tanned sole and harness leather for Government was considerable and this is bound to continue. Exports of finished leathers such as Box and Willow Calf and sides and

glace kid have been limited by overseas import quotas, shipping quotas, lack of shipping facilities and lack of supplies of the necessary chemicals and materials. There has been reduced employment in this section of the trade. Owing to the rising cost of materials and labour, prices of these goods have advanced and continue to do so.

45. *Sugar*.—The area planted with sugarcane in 1941 was estimated at 112,110 acres as compared with 161,850 acres estimated for the corresponding period of the previous year, representing a decrease of 30·7 per cent. The estimate of the previous year was practically the same as the actual area being greater than it only by 0·08 per cent. The yield was estimated at 3,021,670 tons of cane or 327,440 tons of jaggery (gur) as against 4,430,030 tons of cane or 484,760 tons of jaggery (gur) according to the final figures in the season and crop report of the previous year. The estimates for the current year reveal a decrease of 31·8 per cent of cane and 32·5 per cent of jaggery (gur) as compared with the previous year. The decrease in the area planted with cane is attributed mainly to low price of jaggery at the time of planting. Imports of sugar from overseas during the year amounted to 5,490 tons valued at Rs. 12·69 lakhs as against 58 tons valued at Rs. 0·22 lakh in the previous year. Coastwise imports of sugar declined from 2,319 tons valued at Rs. 6·91 lakhs to 517 tons valued at Rs. 1·66 lakhs. Fourteen sugar factories worked during the season.

46. *Oilseeds—Groundnut*.—The area sown with groundnut in the Province in 1941 was estimated at 2,762,500 acres as compared with 3,820,000 acres estimated for the corresponding period of the previous year and the actual area of 3,922,497 acres according to the season and crop report of the previous year. The estimated area in 1941 reveals a decrease of 27·7 per cent as compared with the corresponding estimate of last year and a decrease of 29·6 per cent as compared with the finally recorded area in the Season and Crop Report of the previous year. The estimate for the previous year fell short of the actual area by 2·6 per cent. The yield (in unshelled nuts) has been estimated at 1,185,800 tons as against 1,760,800 tons estimated for the corresponding period of the previous year, representing a decrease of 38·4 per cent as compared with the finally recorded estimate of 1,924,010 tons in 1940–41. Exports of groundnuts to foreign countries advanced from 282,297 tons valued at Rs. 335·41 lakhs to 312,125 tons valued at Rs. 380·20 lakhs. In the first two months of the year under report the groundnut market remained more or less steady although there was a better feeling due to increased export demand in May 1941. The Ministry of Food were keen buyers in the month of June and the price advanced. The month of July saw a definite firmness in the markets so much so the Ministry of Food found it necessary to increase their price. The Indian market remained steady during the first half of August but closed

firmer by the end of the month. September saw a falling off in the export demand and in the next three months the market was bullish the price fluctuating violently in December. In the first quarter of 1942 the market was firmer throughout owing to the position in the Bay of Bengal, the Ministry of Food showed little interest in shipments from the East Coast but confined themselves largely to the West Coast of India. Although the export demand has been reduced considerably, the indigenous demand has nearly made up the loss and there is every sign that this demand is a permanent feature. In fact it has been the indigenous demand which has controlled the local prices and the Ministry of Food have had of necessity to adjust their buying price to that ruling in the local markets. As the Ministry of Food confined their purchases to the West Coast towards the close of the year due to shipping difficulties in the Bay of Bengal, representations were made to the South Indian Railway Company for granting concessional rates for the movement of groundnut from the East Coast to West Coast ports and the railway company promptly responded and granted concessions. Prices of groundnut advanced above the pre-war level during the year. The Provincial wholesale price index of groundnut (August 1939=100) advanced from 76 in April 1941 to 107 in March 1942. As the price of groundnut for shipment exceeded the minimum purchase price of £10 per ton f.o.b. by the Ministry of Food provincial contributions were discontinued for the West Coast ports—Mormugoa, Cochin and Calicut—on the 30th May 1941 and for the East Coast ports towards the close of June 1941. The Groundnut Fund Committee, which was constituted to administer the Groundnut Fund already accumulated for the benefit of the cultivator, held its first meeting in October 1941. Schemes for the construction of godowns which would afford direct assistance to the cultivator and schemes for promoting the consumption of groundnut in varied forms for increasing demand, were under consideration.

47. *Castor*.—The area sown with castor up to 25th November 1941 was estimated at 244,900 acres as against 250,000 acres estimated for the corresponding period of the previous year, representing a decrease of 2·0 per cent. The estimate of last year was less than the actual area of 266,786 acres by 6·3 per cent. The yield has been estimated at 24,300 tons as against 24,900 tons estimated for the corresponding period of last year and 27,390 tons estimated in the Season and Crop Report of the last year. Exports of castor seed to foreign countries declined from 35,394 tons valued at Rs. 64·31 lakhs to 13,217 tons valued at Rs. 18·19 lakhs. The average price of castor seed was 21·5 per cent less than in the previous year.

48. *Oil milling*.—Imports of copra increased from 21,292 tons valued at Rs. 28·74 lakhs to 33,095 tons valued at Rs. 51·67 lakhs. Imports of coconut oil however declined from 1,137,701 gallons

valued at Rs. 10.41 lakhs to 838,007 gallons valued at Rs. 7.98 lakhs. Coastwise exports of coconut oil rose from 974,968 gallons valued at Rs. 11.83 lakhs to 1,095,165 gallons valued at Rs. 14.01 lakhs. Exports of groundnut oil to foreign countries declined from 7,837,875 gallons valued at Rs. 115.44 lakhs to 5,424,701 gallons valued at Rs. 77.84 lakhs. Exports of groundnut cake declined sharply from 56,654 tons valued at Rs. 23.51 lakhs to 11,138 tons valued at Rs. 3.42 lakhs. Imports of sulphate of ammonia were negligible and this naturally created a stimulus for the use of locally available organic materials including oil-cakes. Due to the scarcity of wagons and the consequent dislocation of traffic the price of oil-cakes in consuming centres rose enormously whilst in oil-seed production centres there was a slump in the price for want of freight space. The demand in the country for oil-cakes for manuring purposes was good. The consumption of groundnut oil in India is on the increase and unless the crop in the next season is larger, there may be a shortage of groundnut oil for consumption in India and incidentally the Ministry of Food may not be able to buy their full requirements.

49. *Soap industry*.—Imports of all classes of soaps advanced slightly from 237 tons valued at Rs. 3.91 lakhs to 256 tons valued at Rs. 4.35 lakhs. The value of imports of household and laundry soap rose slightly from Rs. 0.07 lakh to Rs. 0.08 lakh and of toilet soaps from Rs. 3.75 lakhs to Rs. 4.14 lakhs. The soap industry, in particular the cottage industry portion of it was handicapped due to restricted supplies of caustic soda. The soap factories who approached the department for help in this regard were advised to adopt the process of causticising soda ash. The prices of materials such as oils, perfumes, packing cases, etc., also rose considerably.

50. *Cashewnuts*.—Exports of cashewnut kernels advanced from 13,634 tons valued at Rs. 150.62 lakhs to 18,857 tons valued at Rs. 195.50 lakhs. Due to restricted export facilities the industry had a set-back at the beginning of the year. The situation improved subsequently due to the increasing demand for cashew shell oil. The question of exporting large quantities of the oil to the United States of America was engaging the attention of the Government of India.

51. *Coir*.—Exports of coir manufactures advanced in quantity from 498,213 cwt. to 513,457 cwt. but declined in value from Rs. 75.93 lakhs to Rs. 73.88 lakhs. The want of shipping facilities for coir goods particularly coir mats, which was a great hardship last year was to some extent made good by His Majesty's Government. Orders for large quantities of coir mats were placed early in the year by the Government of India, both for meeting the internal military demand and for export purposes. This was followed by orders for coir fibre. These measures have helped to relieve the distress in the coir centres to a certain extent. The prices of coir goods have risen by about 50 per cent.

52. *Tiles*.—The tile industry was very active during the year in implementing the large orders placed by the military and other Government departments. The demand for tiles in South Indian markets was also good. Great difficulty was experienced however, for want of transport facilities owing to the lack of shipping opportunity and the shortage of railway wagons which caused undue delay in deliveries and even resulted in the cancellation of some orders. The cost of production increased owing to the higher prices which had to be paid for raw materials and stores and to the payment of dearness allowance to employees. Further the new system adopted by the railway of charging freight on the marked carrying capacity of wagons instead of 300 maunds minimum weight, allowed previously, increased the cost of tiles delivered to out-stations as most of the wagons could not accommodate goods like tiles to that extent. Restriction of supplies of kerosene oil, lubricating oils, etc., which are essential for manufacturing purposes was beginning to be felt.

53. *Manures*.—Imports of manure (excluding oil-cakes) declined in value from Rs. 39.61 lakhs to Rs. 8.19 lakhs. Imports of sulphate of ammonia have been practically nil and this led to the extended use of locally available bone meal, oil cakes, green manure crops, etc. In order to assist the agriculturists in South India, sulphate of ammonia of Indian manufacture was made available to them in small quantities by an agreement with the producers in Northern India. The price of this commodity has gone considerably as also that of oil cakes and bone meal.

54. *Chemicals*.—Imports under the head "chemicals and chemical preparations" declined in value from Rs. 90.32 lakhs to Rs. 58.55 lakhs. Certain industries, which depend upon receiving supplies of imported chemicals and dye-stuffs, were handicapped not only by want of supplies of certain necessary chemicals but also by rationing. In addition to these restrictions, shipping opportunities both from the United Kingdom and America were curtailed considerably, and great difficulty was experienced through shipping delays and other causes in obtaining chemicals and dye-stuffs even under the "priority" and "licensing" system. As regards dye-stuffs, almost all fast colours were requisitioned for military and war production purposes. Trade in heavy chemicals for domestic purposes was fairly well maintained due to the maintenance of adequate stocks to meet emergencies.

55. *Match industry*.—Imports of matches declined from 1,185,353 gross valued at Rs. 21.98 lakhs to 319,560 gross valued at Rs. 12.91 lakhs due to restricted imports from Burma and Calcutta. The production in the Province in 1941 was estimated to have decreased by about 17 per cent as compared with the previous year. There was thus a considerable fall in consumption. It is reported that the small scale industry in the Southern districts of the Province fared fairly well, the production of these factories in 1941 showing a fall of about 6 per cent only as compared with the previous year.

56. *Pepper*.—Exports of pepper rose sharply from 9,395 cwt. valued at Rs. 1.61 lakhs to 30,275 cwt. valued at Rs. 5.21 lakhs. The acreage and production did not appreciably increase. Since the fall of Singapore and Malaya, the demand has considerably increased and the price rose from Rs. 95 to Rs. 330 per candy during the year.

57. *Tea and coffee*.—Exports of tea (black) rose from 53.03 million pounds valued at Rs. 512.94 lakhs to 66.50 million pounds valued at Rs. 647.58 lakhs. Exports of coffee advanced from 51,259 cwt. valued at Rs. 23.62 lakhs to 72,526 cwt. valued at Rs. 33.74 lakhs. The general trade conditions for coffee were good and continued to improve owing to the control arrangements of the India Coffee Market Expansion Board.

58. *Rubber*.—Exports of rubber raw declined from 19.61 million pounds valued at Rs. 91.89 lakhs to 14.40 million pounds valued at Rs. 72.00 lakhs.

59. *Miscellaneous*.—Exports of Madras handkerchiefs fell in value from Rs. 35.03 lakhs to Rs. 32.86 lakhs and of lungis and sarees from Rs. 132.98 lakhs to Rs. 111.62 lakhs. Exports of sandalwood oil rose from 1,902 gallons valued at Rs. 1.80 lakhs to 2,023 gallons valued at Rs. 2.11 lakhs and of lemongrass oil from 83,429 gallons valued at Rs. 12.10 lakhs to 109,718 gallons valued at Rs. 30.25 lakhs. Exports of ginger advanced in value from Rs. 1.56 lakhs to Rs. 7.41 lakhs. The season for sardine oil was poor but there was a large demand for this oil, the price ranging from Rs. 300 to Rs. 400 per ton even for oils of low quantity. The boom in the timber trade in the previous year continued on account of the large Government orders placed in the market. There was also good demand from Bombay and Government contractors there bought very large quantities of timber from the West Coast. Hard, as well as soft, woods were in great demand and prices advanced 50 per cent to 75 per cent over those prevailing in the previous year due to demand being greater than the supply. The saw mills worked day and night shifts continuously from August onwards, but as usual, during the monsoon months there was little activity owing to lack of shipping facilities to Bombay and other ports. The industry was handicapped to a great extent by an acute shortage of railway wagons and even under priority certificates bookings were suspended from time to time owing to the heavy rush of traffic resulting in inevitable congestion of large stocks of timber awaiting despatch. The sales of plywood increased due mainly to purchase by the Military department. The condition of the slate industry was satisfactory. Imports of cement declined from 485 tons to 395 tons. The cement factories in the Province were almost all of them in full production. Owing to restricted movement of wagons, the factories are stated to be short of coal. The Andhra Cement Company produced about 25,000 tons. Figures in respect of other factories are not available. There was a further increase in the demand for Indian-made cigars. The trade is likely however to suffer in the future

owing to the depletion of stocks of imported leaf and the difficulty of securing supplies of the kinds of foreign tobacco essential for the manufacture of certain types of cigars.

COTTAGE INDUSTRIES.

60. *Coir*.—The school at Beypore continued to function as before. The selection of students was limited to those who have completed the VIII standard and possess the elementary teacher's training certificate. Two Tamilians, two Kanarese and eight Malayali students were selected. Twelve students were trained in the year. Some of them have been absorbed in elementary schools as teachers soon after the completion of their course. Others are expected to get employment when the schools reopen, as teachers in coir handicrafts. The demand for the coir goods of the school has been on the increase. The market for the coir has been developed considerably and a few old students and a number of private individuals have taken to this remunerative business. Experiments in the soaking of husks were started in the year and nearly 16,000 husks were soaked in nets adopting Travancore method.

61. *Peripatetic tanning party*.—The selection of the tanning demonstrator was made in February 1942. He joined duty on the 1st March. The peripatetic tanning party had not, therefore, started demonstration work in the different districts during the year.

62. *Jaggery and sugar from palmyra sweet toddy*.—It has been proved during the demonstrations carried out earlier that jaggery of better quality fetching a better price than the one usually prepared could be made. It was also proved that white sugar could be prepared in the open pan system directly from the palmyra sweet toddy. The cost of centrifuging rab and separating the sugar crystals was a serious impediment in making this method profitable on a cottage basis. In the first demonstration carried out in 1936 in Navadur, West Godavari district, the centrifuging was done by power. The cost of centrifuging was prohibitive. In the demonstration carried in Tirupalur, Malabar district, in the year 1940, it was shown that the cost of centrifuging the rab could be brought down to As. 3 per 120 lb. of rab by joining the centrifugal to the engine in a rice mill by means of a counter-shafting and running the centrifugal along with the rice-huller. In the demonstrations carried out during the year under review it was shown that the rab can be centrifuged by a hand-worked centrifugal on a cottage basis at a low cost.

63. *Demonstration in Kalligai near Mangalore in South Kanara district*.—A demonstration on the manufacture of superior jaggery and white sugar from palmyra sweet toddy was carried out during the months of May and June 1941. In September 1941 a jaggery co-operative society was formed in the area.

64. *Palmyra jaggery and sugar demonstration*—*Vinayashramam, Kavur, Repalle taluk, Guntur district.*—A demonstration on the manufacture of palm jaggery and sugar was staged at the above centre in the months of February and March. Ten apprentices who were either tappers or interested in the tapping industry were trained during the period in the manufacture of superior jaggery and white sugar from palmyra sweet juice. Of these, two were males and eight were females. The samples of jaggeries prepared by the tappers according to their old methods and according to the method taught were kindly analysed by Messrs. Parry & Co., Ltd., and it was found that the samples prepared by them according to the method taught was superior to the one prepared according to their old method, in having a refining value of about 55 as against 51. A method of utilising molasses—bye-product—in the manufacture of sugar, in the manufacture of molasses jaggery suitable for being used as food for cattle was shown. Although the demonstration ended by the 23rd March, one tapper was preparing jaggery until the 10th of May and it was understood that this would be continued during the next tapping season in 1943.

65. *Coir industry.*—Coir demonstrations were conducted in the Ramnad and South Kanara districts.

I. *Coir demonstration at Periyapatnam, Ramnad district.*—The demonstration was started in September 1941. The industry already exists in a crude form in this district ropes being made by women by hand. The husks are not soaked for more than a few days in pots, although there are facilities for soaking on a large scale in the back-waters. The method of cleaning the fibre by the willowing machine, the spinning of yarn with the spinning wheels, the making of brush mats, and the manufacture of mattings on the loom and the making of sundry articles like bottle cleaners, brooms, etc., were demonstrated. Fifteen stipendiaries were trained during the period, besides students from the local girls' school and the students from the Muthupet boys' school. The people trained number 60. The residents of the place requested the formation of a co-operative society as early as December 1941. In view of this and at the request of the members of the society and in order to conduct another demonstration in Pamban in the same district, this demonstration was extended for another six months (from 3rd March to 3rd September 1942).

II. *Coir demonstration in Ullal, South Kanara district.*—At the request of the Ullal Coir Workers' Co-operative Society, Government sanctioned a coir demonstration to be carried out at Ullal under the auspices of the above society for a period of six months. The demonstration was started on the 15th January 1942 and will last until 15th July 1942. Ten students are undergoing training in the industry, all of them belonging to the Muslim community. Of these six are males and four are females.

They were given a stipend of 4 annas per working day. The fibre was supplied by the Society and the articles prepared out of this fibre were handed over to the society. The pay of the demonstrator and the stipends of the apprentices were paid by the department. Up to the end of 31st March 1942, 21 thick ropes, 3 chain mats, 32 fibre mats and 4 mattings, besides coir yarn were prepared by the apprentices.

66. *Coir industry in North Arcot district.*—The possibility of developing the coir industry in North Arcot district was investigated.

67. *Hand-made paper demonstration.*—A scheme for the constitution of two demonstration parties to demonstrate the manufacture of hand-made paper and for the employment of a supervising demonstrator to correlate the work of the two parties and to conduct experiments in the manufacture of hand-made paper at the Leather Trades Institute was sanctioned by Government. The supervising demonstrator joined duty on 14th October 1941. Experiments in paper-making with various available raw materials were carried out at the institute. The demonstration parties had not started work before the end of the year. Several raw materials were studied with reference to their availability, the cost of converting them into pulp, the ease with which they could be pulped and the kinds of paper that could be manufactured from them.

68. *Special officer for the development of cottage industries.*—It was stated in last year's report that the Government had sanctioned the appointment of a Special Officer for the development of cottage industries in the Ceded districts and that it was proposed to develop the glass bangle industry in the first instance. As no suitable glass expert was available, Sri K. Swami Sarma, Lecturer in Textiles, Government Textile Institute, was appointed as Special Officer for the development of cottage industries. He took charge of the post on 17th November 1941 and had to relinquish it just before the close of the year to take up appointment as Principal, Government Textile Institute.

MANUFACTURING ACTIVITIES.

Kerala Soap Institute, Calicut.

69. *Staff.*—Sri A. K. Menon was in charge of the commercial Research and Experimental sections of the Kerala Soap Institute, as also the Government Oil Factory.

70. As usual, the Institute continued the manufacture of household, toilet and industrial soaps, etc. The vegetal soap was stamped in a new size and shape approved by His Excellency's Second Adviser and the sales of this once popular brand are showing improvement. Guest tablets were supplied to several hotels and boarding houses in different parts of this Province.

Attempts are being made to sell these to hotels all over India. A special soap for anti-malarial operations was made and supplied to the Public Health Department. There was a steady increase in the demand for Coal Tar soap (carbolic) from hospitals, borstal schools and the general public. The sales of Deepa brand soap, improved greatly. A local Ayurvedic physician continued to place orders for his medicated soap. It is a matter for gratification that orders for toilet soaps of special quality favoured by Their Excellencies, the Viceroy and Vicerene, were executed regularly during the year. Similarly, the institute has been supplying soaps to His Excellency the Governor of Madras. The Institute also executed during the year large orders for shaving soap including refills, vegetol soap and some toilet soaps received from the Central Joint War Committee of the Indian Red Cross Society and St. John Ambulance Association, Simla, and similar bodies in Bombay and Madras.

71. *Production and accounts.*—The total quantity of all soaps manufactured during the year amounted to 203 tons as against 208 tons in the previous year. The sales of soap during the year showed a small decrease of Rs. 1,923 in value, as compared with those of the previous year as will be seen from the following figures :

Net sales for 1940-41, Rs. 1,93,056.

Net sales for 1941-42, Rs. 1,91,133-2-10.

The result of the year's working was a profit of Rs. 30,052 subject to audit. The net profit has been arrived at after charging an amount of Rs. 4,695 as interest on capital. The net return to Government on the closing capital is 11·2 per cent as against 16·6 per cent in the previous year. The usual system of purchasing materials, seasonal oils, etc., was followed during the year.

72. *Sales organization.*—A few changes were effected during the year in the agency arrangements with a view to promoting the sales of the products, particularly in this presidency, and the adjoining Indian States. The Mysore State (including Bangalore Cantonment) till now included in the jurisdiction of the West Coast agent was converted into a separate territory towards the end of the year and placed under the Continental Agencies. Bangalore, a firm engaged in import and export business and commanding considerable popularity amongst the dealers in soaps, cosmetic articles, etc. The business done by these agents during the short period has been very satisfactory and it is hoped that it will continue to be so hereafter. The Cochin State was added to the area of the West Coast agent. Notice was served on the Madras agent towards the close of the year and it was proposed to appoint another firm as agents. As arrangements made with new firm fell through, it has been decided to appoint a number of stockists in important places in the city and action has been

taken accordingly. The other districts that were included in the area of the Madras agents have been given to other adjoining agents and stockists. As Government considered that the output of the Institute is too small to attempt to spread the distribution all over India, no serious attempts were made to appoint agents in Northern India. Every possible effort is, however, being made to develop the sales in Southern India. Travancore State remained unrepresented and the Madura agent, whose territory adjoins the southern part of Travancore, has since been permitted to work the State. The panic created by the war scare has been responsible for considerable dislocation of business in the East Coast. Several shop-keepers evacuated from Vizagapatam and closed their shops even as far back as December 1941, while those in towns like Bezwada, Rajahmundry, etc., fairly removed from the coast were afraid of stocking too much of any commodity for fear of having to leave their property behind in the event of their having to move to interior villages. This keeping of restricted stocks more or less on a hand-to-mouth basis prevailed throughout the Province especially in the coastal towns. Owing to the exodus of the people from Madras and other coastal cities, the business was considerably affected; there has been some improvement in the sales effected in the mufassal towns resorted to by the evacuees. The sales in Ceylon showed a serious fall, as a result of the import restrictions brought into force during the year by the Ceylon Government. A quota has been fixed at less than half the usual off-take which means a considerable restriction in the sales. There has been considerable dislocation of goods traffic on account of the large scale movements of the essential war materials and dearth of rolling stock. As a consequence, consignments of soaps are despatched only at long intervals and subject to unavoidable delays. Notwithstanding such difficult conditions which prevailed throughout the greater part of the year, there has been no appreciable fall in the volume of business turned over by the Institute. The prices of all the Institute's soaps had to be slightly increased in February 1942 to meet a portion of the increased cost of chemicals, perfumes, packing materials, etc.

73. *Visits to important markets.*—During the year, the Superintendent was on tour for about 100 days and visited a number of places. During his tours, the Superintendent discussed business matters with the agents and stockists and the important dealers in the respective localities. He also inspected soap factories owned by private parties and some of the ex-students and advised them on matters connected with their work. Addresses of suppliers of machinery, perfumes, chemicals, etc., were also furnished.

74. *Training of apprentices.*—Ten students underwent training during the year—the same number as in the two previous years. Of these, 6 were for the ordinary course, 3 for the short course, and 1 for the advanced course. One of the

students was from Bombay, one from Travancore and the rest from the Madras Province. Besides these, one student deputed by the Andhra University also underwent training without payment of fees. As usual, a number of the ex-students of the Institute approached for advice on various matters connected with oil refining, soap making, etc., and these were suitably answered. A few sent their products for inspection and opinion. Several of the ex-students were permitted to go round the factory and watch the new developments in progress. The students feel that they have gained something by such occasional visits.

75. *Laboratory*.—There was a slight increase in the number of analysis carried out in the laboratory. Five hundred and eighty specimens were analysed during the year under review as against 560 in 1940-41 and 500 in 1939-40. Of the total analyses 480 comprised the different raw materials consumed in the factory and also various products in different stages of manufacture. The remaining 100 represented samples of other brands of soap, etc., received from our agents or collected by the Superintendent during the course of his tours being of interest for observation and study. The students did practical work in the laboratory on the analysis of oils and soaps for 12 hours a week in two batches. The laboratory has become greatly congested and requires extension in order to cope with the increasing volume of work. Certificates of analysis were given this year for 16 products as against 12 and 3 during the two preceding years. The Mettur Sandalwood Oil Company sent 13 samples of sandalwood oil for analysis which is charged at a specially reduced rate with a view to helping this newly started concern. Some of the ex-students also availed of concessional rate and sent their soaps for analysis and report.

76. *Experimental manufacture of cosmetic articles*.—Owing to the difficulty of getting suitable containers for packing brillian-tines, hair oils, dental cream, etc., much headway could not be made during the year in the manufacture and marketing of these products. Attempts are now being made to get small wooden containers for packing solid dentifrice (in place of the semi-solid dental cream put in collapsible metal tubes). There is a small stock of collapsible metal tubes which is reserved for the Supply Department. In the matter of getting supplies of suitable perfume materials for the cosmetic articles, there has been considerable difficulty but this is partly overcome by blending and using perfumes according to certain formula. In spite of all the adverse conditions, it has been possible to make and sell about Rs. 570 worth of articles as against Rs. 365 in the previous year.

77. *Experimental manufacture of insecticides, fungicides and sprayers*.—Lime sulphur, leechex, crude oil emulsions and other preparations were made and sold during the year. Enquiries and orders were received also for arsenical preparation for anti-malarial and agricultural operations. Appreciable quantities of

Paris Green (a copper arsenic preparation) and calcium arsenate were made and sold. A few samples of pyrethrum flowers were analysed and planters were advised on the best methods of harvesting and preserving them. A scheme for the large-scale production of pyrethrum extracts is under consideration of the Government. Various enquiries on cashew shell oil, coconut shell distillation, preparation of activated carbon, acetic acid, creosote, etc., were answered.

78. *Essential oils*.—The distilling plant was continuously in use. The quantities of the various raw materials treated and the essential oils obtained are given below:—

		Material. LB.	Oil.	
			LB.	OZ.
(1) Orange peels, fresh	..	5,425	206	..
Do. dry	..	3,151		
(2) Kasturi manjal (<i>Curcuma aromatica</i>)	..	2,059	65	..
(3) Mullilam	..	1,223	27	10
(4) Vettivert	..	1,058	1	8
(5) Pepper waste	..	911	4	8

The Forest department supplied the following materials for experimental purposes:—

Cardamom (mature and tender).

Karuvepila.

Torriovelagu leaves.

Fruits of three species of nutmeg.

The resin of *hardwickia binata*.

Cardamom gave a yield of 0.13 to 0.26 per cent of oil on distillation and about 8 per cent on extraction with acetone. The karuvepila and torriovelagu leaves yielded on distillation 0.11 to 0.34 per cent of oil. Thirty-three per cent of a resinous oil and 38 per cent of rosin were obtained by distilling *hardwickia binata*. The nutmeg fruits yielded very little oil on distillation but when extracted with ether, the yield was 33–68.5 per cent. The collection and industrial utilization of the *hardwickia resin* on a large scale were very promising, but the Forest department declared after making some preliminary investigation that the method of collection was tedious and the number of available trees too small to deserve commercial exploitation. The problem was therefore given up. The Working Plans Officer, II Circle, Coimbatore, conducted some experiments at the Superintendent's instance on the distillation of the *cymbopogon* grasses and such materials available in forest tracts and was hopeful of exploiting them on a commercial scale. A medium-sized still which could handle 3 cwt. of grass at a time was made and supplied by the Institute. Rusa oil, lemongrass oil and basil

oil were produced. The bulk of the output was taken by the Institute for use as soap perfumes. The Government have sanctioned a scheme for the production of essential oils from indigenous materials on a commercial scale during the year 1942-43.

79. *Oil-refining*.—Sixty-one tons of groundnut oil and about 2 tons of coconut oil were refined in the oil-refining plant, and supplied to the hospitals, to the Government Oil Factory and in small quantities to private individuals.

80. *General*.—The Institute participated in a number of exhibitions and secured some medals and certificates of merit. The soaps and other products were artistically displayed at the carnival "London Calling" in Madras and this show gave wide publicity and the Institute has since been getting enquiries and orders from various parts of India from people who had visited the stall. Soaps and cosmetic articles were also sent as free gift to organizers of War Fund Fete in some districts. The Institute received several enquiries regarding soap-making, oil-refining, distillation of essential oils, manufacture of toilet articles, etc., from Government departments, private individuals, ex-students, etc., estimates of plant and details of the processes, etc., were furnished in most cases. The Institute had a number of visitors from educational institutions in Calicut and outside. Processes of soap manufacture and oil-refining were explained in detail, especially to students who are interested in chemistry. Amongst the distinguished visitors were Sir H. M. Hood, C.S.I., K.C.I.E., I.C.S., and Mr. T. Austin, C.I.E., I.C.S., Advisers to His Excellency the Governor and Major-General H. Stott, C.I.E., O.B.E., K.H.S., I.M.S., Surgeon-General with the Government of Madras. The Director of Industries and Commerce and the Joint Director of Industries and Commerce also inspected the Institute.

Manufacture of silkworm ligature guts.

81. During the year an emergency order from the Medical Stores Depot, Madras, for the supply of 3,996,372 guts valued at Rs. 1,14,823-12-0 was completed. The fact that such a large emergency order for guts which meant the purchase of ripe worms of good quality, the employment of nearly 1,000 labourers per day for removal of guts, sorting and grading them and that the indent was supplied in three months time reflects considerable credit on the work of the departmental staff concerned. These heavy indents solved to a remarkable degree the unemployment problem that prevailed amongst the poorer classes of labourers who were engaged in the gut work. The Medical Stores Depot, who were addressed as to their further requirements of guts for the current year ending 31st March 1942 and for the next year commencing from 1st April 1942, stated that the guts usually supplied by this department will no longer be required by them as they were not authorized under their new system of P.V.M.S. since introduced and that the guts authorized under the new

P.V.M.S. of Medical Stores Depot, were guts, unsterilized, medium, 14 inches in length, hanks of 50 (down 248/2) and 14 inches guts of 50 hanks (down 248/3) and fine varieties. They were informed that guts of 14 inches in length of 0.011 to 0.012 inches in thickness according to Starret's micrometer could be supplied. During the visit to Delhi in January 1942 to attend the Silk Conference, the Sericultural Expert discussed the matter with the officers of the Medical Directorate at Delhi connected with indents and he understood that the guts supplied by the department were amongst the best so far produced in India. The Medical Stores Depot, Madras, placed with this department the following indents for medium and fine quality guts, 14 inches length and unsterilized :—

					Value. RS.
(i) Fine guts—					
84,000	..	..	..	..	4,200
(ii) Medium guts—					
475,400	..	..	..	..	23,770
Total	..	559,400	..	..	27,970

Out of these, 22,000 fine guts valued at Rs. 1,200 were supplied on 31st March 1942 and the balance was supplied on 12th May 1942 whilst 62,150 medium guts valued at Rs. 3,107-8-0 were supplied on 27th May 1942. The remaining 413,250 guts valued at Rs. 20,662-8-0 were under production. The Pathology Assistant who did good work in this line was, in accordance with G.O. No. 109, Development, dated 16th January 1942, deputed for a month to undergo a course of training at the King Institute, Guindy, Madras, in the methods of sterilization and preservation of guts.

TEXTILE SECTION.

82. *Staff*.—Mr. D. M. Amalsad continued as Principal, Government Textile Institute, during the year except during the periods from 23rd June 1941 to 22nd September 1941 and from 29th March 1942 till the end of the year under report, when he was on leave and Sri K. S. Sarma acted during the above periods.

83. *Grant-in-aid by the Government of India for the development of the handloom weaving industry*.—The Government of India subvention for the year 1941-42 amounted to Rs. 75,909 which together with the unspent balance of Rs. 61,591 was available for expenditure during the year 1941-42. A sum of Rs. 1,02,693 was spent till the close of the financial year ending 31st March 1942. This includes Rs. 1,097-13-0 spent as recurring expenditure on the calendering and finishing plant. The share capital of the Provincial Society rose from Rs. 48,725 to Rs. 82,320

at the end of the financial year. On the last day of the year, there were 347 members on rolls consisting of 187 weavers' societies, 55 other co-operative institutions, 88 individuals and 17 firms and institutions. As recommended by the sub-committee, the policy of expansion was followed in select districts. New societies were also permitted to be registered in other districts wherever there was distress among handloom weavers. During the year 14 new societies were affiliated to the Provincial Society and 9 societies were removed from the rolls as their registration had been cancelled. A sum of Rs. 49,937 was disbursed to primary weavers' societies as subsidies for meeting their establishment charges and for purchasing appliances as against Rs. 43,948 disbursed during the previous year. The Provincial Society continued to assist the primaries by issuing cash credit, yarn loan and loans on the pledge of finished goods. During the year, cash credit loans to the extent of Rs. 11,599 were issued. The value of yarn supplied to primaries amounted to Rs. 5,05,738. Advances on the pledge of the stock in the emporia of the society were made to the extent of Rs. 2,972. As recommended by the sub-committee, the financing of many weavers' societies has been taken over by the District Central Banks concerned, which have allowed a total financial accommodation over Rs. 3 lakhs to these societies. The Provincial Society confined its assistance to the supplying of raw materials and to the financing of small and new weavers' societies. As the price of yarn began to rise from the beginning of the year 1941, the primary societies were not able to secure yarn advantageously in getting yarn from mills at rates ruling on the date of despatch on the guarantees of the Provincial Society. Hence the Provincial Society entered into forward contract with Messrs. Harvey Mills and some of the South Indian mills, Coimbatore, for the supply of 1,522½ and 234 bales respectively. For the supply of dyed yarn of guaranteed fastness, the Provincial Society has opened three dying factories at Madura, Salem and Chirala. Some quantities of grey yarn and coloured yarn are also stocked at the sales depots of the Provincial Society to enable societies to get prompt supplies whenever there is delay in getting their supplies from the mills. As recommended by the sub-committee, the field staff of the Provincial Society was re-organized from 1st April 1941. Fifteen posts of Marketing Officers on Rs. 30 were abolished and in their place, 8 Marketing Officers possessing practical business knowledge and willing to guarantee sales up to a fixed minimum were appointed on a basic pay of Rs. 60 plus some commission on sales. The posts of Supervising Officers were abolished and supervision of the primary weavers' societies was handed over to the Co-operative department. The senior designer was entrusted with the duties of the Standardization Assistant. In addition to the existing two designers, one of whom has been made the Standardization Assistant, 4 more designers were appointed during the year. The 3 dying factories are in charge of a dyer supervisor each. To enable the secretary to go on tour and inspect societies, the services of a Junior Inspector of the

Co-operative department have been taken as the Manager of the Society. The Provincial Government have been pleased to sanction the appointment of a Special Deputy Registrar for the development of the handloom weavers' societies in the Province. The number of sales depots of the Provincial Society rose from 8 to 13 (thirteen). New depots were started at Tenali, Salem, Coimbatore, Madura and Nellore. Goods to the value of Rs. 3,07,367 were consigned by the Production societies to the said depots; goods valued at Rs. 2,33,170 were sold by the depots. From 1st April 1941 the Provincial Society discontinued financial assistance to the emporia run by primaries in accordance with the recommendations of the sub-committee. The value of goods produced by the affiliated societies amounted to Rs. 21,82,557 against Rs. 8,70,223 during the previous year. Sales during the year ending 31st March 1942 rose from Rs. 8,40,068 to Rs. 13,96,502 which makes an all-round progress in the working of weavers' societies. As stated in the closing paragraph of the report for the last year, the sub-committee made some important recommendations. Apart from those already touched upon in the foregoing paragraphs, the following are the more important recommendations:—

- (1) that each production society should have at least a minimum of 25 looms to make it an economic unit;
- (2) that qualified and competent persons should be appointed as paid secretaries or managers and they should have an effective voice in the internal management;
- (3) that the owned capital of both the primaries and the provincial society should be increased; and
- (4) that the number of directors should be increased to 19 to associate business experts with the management of the Provincial Society.

Steps were taken to implement many of the above suggestions of the Sub-Committee. Owing to the wide spread distress among the handloom weavers in many parts of the Province, the Government of Madras have been pleased to sanction financial accommodation to the Provincial Society for purchasing yarn, paying wages and making grants for remodelling looms in order to enable the Provincial Society to obtain war orders and give work to unemployed weavers. They have also sanctioned a special staff consisting of a Co-operative Sub-Registrar with a clerk and a peon, 6 Senior Inspectors and 6 Weaving Demonstrators to supervise the working of the scheme. Apart from war orders, the Provincial Society has been attempting to supply the requirements of the Civil Departments of Government, as Stationery, hospitals, survey, etc. It is gratifying to note that the Government of Madras have been pleased to direct hospitals to get their requirements under bandage, gauze and long cloths from the Provincial Society for a period of six months and create a 10 per cent preference in price in favour of the Provincial Society. As

the calendering and finishing plant was practically lying idle since 1st January 1941, the Provincial Society obtained the sanction of Government to dispose of the plant by calling for tenders or otherwise; but the proposal was dropped as Government required the plant to be retained for work in connexion with war supplies.

84. *Grant-in-aid by the Government of India for the development of the cottage and small scale woollen industries of the Province.*—The scheme for the development of the cottage and small scale woollen industries of this province sanctioned by the Government of India continued in operation during the year. The Pile Carpet Weavers' Society, Ellore, and the six Cumbly Weavers' Societies organized under the above scheme, worked well during the year. The recurring and non-recurring grants sanctioned for this province for 1941-42 were Rs. 9,236 which added to the balance of the previous years grant made up an amount of Rs. 11,198-7-0. A sum of Rs. 6,188-9-3 was expended during the year out of this amount.

85. *Ellore Pile Carpet Weavers' Co-operative Purchase and Sale Society, Limited, Ellore.*—During the year 1941-42, the share capital increased from Rs. 1,355 to Rs. 1,720 though the membership decreased from 65 to 58. An amount of Rs. 622 was provided as additional working capital in the year, the total free grant paid to the society under the Government of India Wool Subvention Scheme being Rs. 8,601. Another sum of Rs. 200 was paid from the subvention funds towards the provision of wooden racks for the preservation of the carpets in stock. The society borrowed Rs. 14,500 from the Co-operative Central Bank and repaid Rs. 8,382. The outstandings due to the Central Bank on 31st March 1942 is Rs. 12,633. Nearly 42,280 lb. of wool and woollen yarn besides jute, cotton, dyes and chemicals to the value of Rs. 19,568 were consumed for the manufacture of carpets by the society. The stocks of 9,731 lb. of wool, woollen yarn and other materials including dyes and chemicals on 31st March 1942 were valued at Rs. 6,370 approximately. Orders to an extent of 6,600 square yards costing Rs. 37,085 were received during the year both inland and foreign, as against an order of 6,680 square yards worth Rs. 34,241 in the previous year. About 5,769 square yards of the orders to the value of Rs. 32,524 were executed in the year. The sale of carpets effected by the society during the year was for 5,637 square yards for Rs. 32,351 whereas the sales in the previous year was 6,235 square yards for Rs. 33,406. It would be seen that though the quantity of square yards both in production and sales fell to a little extent, the volume of business showed an increase which is due to the fact that the sale price of the carpet has been enhanced in accordance with the market value of the raw materials. The wages earned by carpet weavers, spinners, hankers and twistors was nearly Rs. 10,086 much above the previous year figure of Rs. 9,280. On 31st March 1942, the Society had a ready stock of about 1,338 square yards of carpet of different qualities worth Rs. 7,646. In

addition to the grants towards staff, rent, etc., received from the Government of India Subvention Funds, a sum of Rs. 3,143 was spent by the society towards additional establishment, stationery and postage, travelling, agency commission, etc., as against Rs. 4,022 in the previous year. The foreign order for carpets in 1940-41 was for 2,144 square yards whereas it fell this year to 1,395 square yards. It is at the same time gratifying to note that in spite of the restrictions in transshipping goods overseas, a substantial order was secured and a new market in Cairo was also created, which is due to the popularity of the society's product both inland and foreign. It is at the same time grateful to the Victoria Technical Institute, Madras, for its continued patronage. Loss of foreign markets, restrictions on booking, rise in the price of raw materials and cost of production, disturbance in internal markets due to war scare are factors which were responsible for the restricted business of the society during the year under report. To create a wider internal market the society appointed agents displayed its carpets in various exhibitions and industrial and commercial museums and also spent an amount of Rs. 96 by way of sending samples and coloured pamphlets to the various customers in India. The expenditure for the dye house was partly met from the Provincial funds and from the funds of the society. During the year, 34,132 lb. of woollen yarn were scoured and 26,410 lb. of woollen yarn dyed. Twelve new shades were evolved by the dyer. The popularity of the carpets of this society is largely due to the special care taken in dyeing of woollen yarn and also supervision and check over the carpets prepared by the weavers.

86. *Cumbly weavers' societies.*—The six cumbly weavers' societies which were organized under the Government of India Subvention Scheme functioned satisfactorily during the year. Each Cumbly Weavers' Co-operative Society received so far Rs. 3,150 as working capital from the Subvention Funds. Four societies carried on their transactions without borrowing any funds from the local co-operative banks. Some societies purchased wool and distributed it to members while others issued loans to members to purchase wool during shearing seasons. The total amount of outstandings to be recovered from the members of the societies on 31st March 1942 was Rs. 6,691. The Dharmajigudem Cumbly Weavers' Society received wool from the Ellore Pile Carpet Weavers' Co-operative Society and the members spun 8,993 pounds (lb.) of yarn for a stipulated wage. It is estimated that during 1941-42, the members in all the societies earned about Rs. 4,647 by the manufacture and sale of cumblies and by spinning. The aggregate number of cumblies in stock on 31st March 1942 is 2,497 and their value is Rs. 5,845. The six cumbly weavers' societies produced 6,440 cumblies costing about Rs. 14,884 and sold 5,725 cumblies costing about Rs. 12,819. The appended statement shows the position of each society in respect of membership, share capital, production and sale, etc.

Statement showing the position of each cumbly weavers Society for the year ending March 1942.

	Cumbly Weavers Societies.					
	Kudatini, Bellary district.	Bislahalli, Bellary district.	Salkapuram, Kurnool district.	Doddagatta, Annapur district.	Kanumolu, Kistna district.	Dharmaji- gudem, West Godavari district.
i Number of members on roll on 31st March 1941.	NOS. 47	NOS. 36	NOS. 30	NOS. 71	NOS. 63	NOS. 105
ii Amount of share capital on 31st March 1941.	RS. 94	RS. 120	RS. 78½	RS. 520	RS. 153	RS. 373
iii Stock of cumbles on 31st March 1941.	NOS. 230	NOS. 107	NOS. 130	NOS. 114	NOS. 306	NOS. 895
iv Cost of cumbles on hand on 31st March 1941.	RS. 805	RS. 96	RS. 280	RS. 208	RS. 525	RS. 1,143
v Number of cumbles manufactured during the year.	NOS. 618	NOS. 445	NOS. 678	NOS. 2,604	NOS. 1,598	NOS. 497
vi Cost of cumbles purchased	RS. 2,150	RS. 1,058	RS. 2,580	RS. 6,550	RS. 1,906	RS. 640
vii Amount realized by sale of cumbles.	RS. 1,815	RS. 815	RS. 1,187	RS. 5,250	RS. 2,468	RS. 1,284
viii Number of cumbles sold.	NOS. 458	NOS. 390	NOS. 305	NOS. 2,088	NOS. 1,624	NOS. 860
ix Amount of working capital received.	RS. 3,150	RS. 3,150	RS. 3,150	RS. 3,150	RS. 3,150	RS. 3,150
x Amount borrowed from the Central bank.	..	3,000	..	2,001-10-9	..	..
xi Amount outstanding to the Central bank.	..	..	132	1,949-10-9	..	..
xii Outstandings due from members.	1,487	1,646	287	1,643	572	1,056
xiii Total wages earned by weavers (approximate).	802	421	813	1,838	179	596*
xiv Stock of cumbles on hand on 31st March 1942.	NOS. 390	NOS. 162	NOS. 503	NOS. 680	NOS. 280	NOS. 532
xv Cost of cumbles on hand at the end of year.	RS. 1,141	RS. 339	RS. 1,674	RS. 1,503	RS. 448	RS. 740

* (Including spinning wages of Rs. 562.)

87. *Cumbly Sales Depot, Bellary.*—This sales depot was established with a view to serve the cumbly societies organized in Ceded Districts under the Government of India Subvention Scheme as a Central Selling Agent. On 1st April 1941, the depot had a stock of 729 cumbles costing Rs. 1,859 both in its godown and in the different co-operative societies where they were sent on consignment basis. During the year under review, the depot received 951 cumbles costing Rs. 2,880 from the Kudithani, Bislahalli, Doddagatta and Salkapuram Cumbly Societies as against 1,393 cumbles valued at Rs. 3,942 during the previous year. The depot directly sold 589 cumbles costing Rs. 1,923 and through co-operative agencies 411 cumbles costing Rs. 1,241. The total sales effected directly and indirectly during the year being 1,000 cumbles for Rs. 3,164. At the end of the year the society had a stock of 680 cumbles costing Rs. 1,576.

88. *Government Textile Institute, Madras.*—The institute continued to provide instruction in the Supervisor course, Power Spinning and Weaving (two years), Supervisor course, dyeing and finishing (one year) and Artisan courses (one year each) in handloom weaving, jacquard weaving, bleaching, dyeing and printing, pile carpet weaving, knitting, sericulture and ericulture. On 31st March 1942, there were undergoing in the institute 31 pupils in

the First Year Supervisor course, Power Spinning and Weaving and 24 in the Second Year and 14 in the Supervisor course, Dyeing and Finishing. In the Artisan courses, there were 36 students undergoing training in Weaving, seven in Bleaching, Dyeing and Printing, one in Jacquard Weaving and one in Knitting. One pupil joined the Pupil-Teachers course and he was attached to the Power Spinning and Weaving section. Three power-looms were obtained from England and erected in the institute. The equipment now comprises of a plain loom with twill motion, one plain loom to be fitted with a dobby, one check loom, and one silk jacquard loom. An old power-loom was converted into a tape loom using a swivel slay. The textile testing laboratory of the institute is availed of by the private firms for having their yarn or cloth tested on payment of the prescribed fees. The laboratory has also been utilized during the year by the officers of the Madras Branch of the Indian Stores Department for testing samples of yarn, cloth, etc. Government in their G.O. Ms. No. 366, Development, dated 19th February 1942, have permitted the Senior Designer of the Madras Handloom Weavers' Provincial Co-operative Society, Limited, to carry out, free of charge, tests of yarn and fabrics for the society at the Government Textile Institute, Madras.

89. *Scholarships and stipends tenable in the Government Textile Institute.*—Twenty-four scholarships of the value of Rs. 12 each per mensem were awarded to 24 pupils studying in the Artisan courses, Supervisor courses, Power-Spinning and Weaving Supervisor course, Dyeing and Finishing. In addition to this, the Victoria Technical Institute granted one scholarship of the value of Rs. 15 to a Muhammadan student of Ellore studying in the Supervisor course, Dyeing and Finishing. The District Board of Cuddapah awarded a scholarship of the value of Rs. 20 per mensem to a student studying in the Second Year Supervisor course, Power Spinning and Weaving. A student in the Artisan Weaving course was awarded a scholarship of Rs. 15 per mensem by the Arcot Rajagopala Mudaliar Vellala Students' Scholarship Fund. The District Board, Kurnool, awarded a scholarship to the value of Rs. 20 per mensem to a student studying in Artisan course in Jacquard Weaving.

90. *Aided Textile and Needlecraft schools.*—These schools continued to be under the supervision of the Principal, Government Textile Institute. During the year, a standard syllabus in Tailoring was drawn up for the guidance of the concerned institutions. The pupil-teachers training section attached to the Seton School of Embroidery and Needlework, Kilpauk, and the A.A.M. Women's Industrial School, Palmaner, recognized for imparting instruction in needlework and dress-making continued to function satisfactorily during the year. During the year under report, an amount of Rs. 19,470 was sanctioned as maintenance grant to separate textile and needlecraft schools, an amount of Rs. 420 as capitation grant, Rs. 840 as stipends and an amount of Rs. 106-8-0 as equipment grant.

91. *Assistance to jails.*—The Principal continued to serve on the Cotton Purchase Committee of the Central Jail, Coimbatore, and the Wool Purchase Committee of the Central Jail, Bellary. In G.O. No. 1602, Home, dated 29th March 1941, Government approved as an experimental measure to constitute for the Central Jail, Coimbatore, two committees, one for opening of tenders and selection of cotton in Madras and the other in Coimbatore for the purchase of raw cotton required for the manufacturing section of the Central Jail, Coimbatore. But in the Government Development Endorsement No. 9397-D/42-1, dated 14th March 1942, and G.O. Ms. No. 1009, Home, dated the 12th March 1942, on the suggestion of the Inspector-General of Prisons, the Government directed to abolish the experimental committee in Madras and the procedure laid down in note (i) under rule 972 of the rules in Part I of the Prison and Reformatory Manual which is now held in abeyance be adopted. The Wool Purchase Committee which met on 24th July 1941 and 21st August 1941 had decided this year to purchase wool on the condition of the jail taking the responsibility for the wastage occurring in the bulk supplies. The Committee for passing of the wool was held at Bellary on 9th and 10th September 1941 and the Principal, Government Textile Institute, attended the same. Two departmental hot air hand-driven sizing machines have been, on the requisition of the Jail department, lent and installed in the Central Jail, Bellary, and Borstal School, Palamcottah, and they were working satisfactorily.

92. *Fact Finding Committee.*—As much information as was available in this department, has been furnished to the Fact Finding Committee in respect of questionnaire sent by them.

93. *Industrial museums.*—The establishment of commercial and industrial museums in the several districts of this Province has been a feature of recent years. Government sanctioned Rs. 200 for providing textile exhibits to two such museums. A set of appliances comprising one round ball thread winding charka, one cheese ball thread winding charka and one cone winding charka have been supplied for display at the Guntur District Museum of Arts, Crafts and Industries, Guntur, and the Salem District Industrial and Commercial Museum, Salem. These appliances continue to be the property of Government.

94. *Conflicting interests of the handloom and mill industries.*—The Fact Finding Committee on completion of its tours to the various districts of this Province and preliminary discussions with representatives of the Madras Government and of the textile industry during the end of the last year, issued an exhaustive questionnaire covering every aspect of the industry and its position in relation to the mill industry. There were over seventy questions divided into ten sections. The questionnaire were replied to. After visiting various important weaving centres and examining those who were interested in the textile industry, the Fact Finding Committee submitted its report to the Government of India. The report together with Government's orders is awaited.

95. *Indian Merchandise Marks Act.*—The District Magistrates have reported that there has been no violation of section 12 of the Indian Merchandise Marks Act by any of the weaving mills during the year.

96. *Handwoven blankets for army purposes.*—An order for 5,000 army blankets was placed with Messrs. Someshwar and Company, Hindupur, by the Chief Controller of Stores for Supply during April to September 1941. But this firm had manufactured and supplied only 370 blankets of the value of Rs. 2,465 during the year. Owing to the rise in price of soft wool, the firm could not continue their manufacture at the price offered.

97. *Parachute silk and component parts.*—In connexion with the manufacture of parachute silk cloth and hangings the officers of the Textile section of the Department of Industries have been rendering considerable technical assistance to the power-loom silk factories in this Province. An educational order for parachute silk cloth has been placed by the Controller of Supplies, Madras, with Messrs. Muppanna Somaraju and Veeraraju and Sons, Peddapuram, and Jayanti Ramachandrappa Setty Mills, Limited, Rayadrug, for 7,500 yards and 500 yards, respectively. Samples of silk tapes and cords were prepared by private parties in the city under the guidance of this department and these samples have been approved by the Chief Inspector of Stores and Clothing, Cawnpore. One hundred and five yards of silk cordage light was supplied on 26th December 1941 to the Chief Inspector, Cawnpore, and an order for 990 yards of light silk cordage was received, the same executed and forwarded to the Officer Commanding, Wellington Airport, New Delhi, on 16th February 1942. The Department of Supply placed orders with the Kollegal Silk Filatures for the supply of 40,000 lb. of raw silk up till the end of December 1942 at Rs. 15 per lb.

98. Samples of cloth required by Chinese Government were produced in Salem and Cannanore. Sample produced in Cannanore was sent to the Stores Department for test and it was reported to be satisfactory except in strength in weft way. Supply of huckaback towels required for the Army Department is being undertaken by the Malabar Handloom Factory Owners Association, Cannanore, and this department has already arranged with Messrs. Best and Company, Limited, Madras, for the supply of necessary cotton yarn to the above association.

99. *Effects of war on the handloom weaving industry.*—Owing to the abnormal rise in the price of yarn and also non-availability of the same in certain places, the weavers at some places in the province like Salem, Bellary, Madura, Conjeeveram, Guntur, Malabar, Kurnool, Tinnevely, etc., were put to considerable hardship. The distress of weavers of Salem was so very acute that gratuitous relief at the rate of two annas or two and a half annas per family per day according to the size of the family was sanctioned by Government. In order to provide relief for

unemployed weavers at their own craft, Government sanctioned the opening of five depots in Salem town and its vicinity at which yarn was issued to weavers who were paid for the cloth produced at rates which gave them approximately the same wages that they would get on famine-relief works. The cloth produced will be sold by the Government. The scheme was put in charge of the Co-operative department. In March 1942 Government approved the proposals of the Board of Revenue under section 174 (a) of the Famine Code for the relief of weavers in and around the villages of Yemmiganur and Negaldinne in the Bellary district who were affected by the seasonal conditions in parts of that district. The weavers' relief centres were opened in April and May 1942. The Government considered that the real causes for the distress prevailing amongst the weavers should be enquired into on the spot so that they might devise suitable and more permanent measures for resolving the difficulties with which the handloom weavers were confronted. They accordingly sanctioned the creation of two posts temporarily for a period of one month in the category of Deputy Collectors in the Madras Civil Service (Executive Branch) to visit the various handloom centres, study the problem on the spot, ascertain the extent to which unemployment existed in each centre and report the facts brought about the position. In G.O. R. No. 638, Development, dated the 16th December 1941, Sri Rao Sahib S. Virupakshi Chettiar was appointed to be in charge of the Vizagapatam, East Godavari, West Godavari, Kistna, Guntur, Nellore, Cuddapah, Kurnool, Bellary, Anantapur, Chittoor and Madras districts and Mr. R. D. Paul was placed in charge of the other districts of the Province. Sri Rao Sahib S. Virupakshi Chettiar and Mr. R. D. Paul joined duty as Special Officers on 3rd January 1942 and 2nd January 1942, respectively, and their reports were submitted to Government on 11th February 1942. In G.O. Ms. No. 723; Development, dated 1st April 1942, Government decided that the most hopeful lines of assistance would lie in the direction of making grants wherever necessary for adapting the looms to weave new materials which have a demand and financing the holding of stocks where the link between the production and the consumption centres has been temporarily dislocated on account of nervousness on the part of producers, agents, merchants, etc. In the case of schemes drawn on co-operative lines, the Government were prepared, in addition, to bear the cost of supervision as well as guarantee to indemnify the co-operative bank which may finance the primary societies against business losses, purely as emergency measures to tide over a temporary crisis in the industry. The Government desired that everything possible should be done to keep down their commitments to the minimum and emphasized that if these schemes are to have any permanent benefit, the co-operation of the local people should be drawn upon as much as possible. It was proposed to give assistance, in the forms outlined above, for a period of three to six months only, according to the circumstances of each case. In the light of these concessions, Collectors were

requested to submit wherever necessary concrete proposals for the consideration of Government. Task tables for weaving and spinning were drawn up and furnished to the Board of Revenue. The Principal, Government Textile Institute, and the Special Officer for the development of cottage industries in the Ceded Districts visited various districts and rendered technical assistance to the Collectors.

100. *Appointment of Yarn Commissioner.*—The question of supplying yarn to the handloom weavers in general and the manufacture of materials required for war supplies against contracts placed by the Department of Supply were under consideration of Government. The first scheme involved distribution of yarn under the supervision of the Provincial Government through normal trade channels in two stages (1) primary wholesale dealers who will purchase yarn directly from the mills. and (2) other dealers who will purchase from the primary wholesle dealers and distribute to the customers. In both these stages, dealers will be licensed by the Provincial Government. The second scheme will require close consultation with the Supply Department for clearing war orders, expeditious organization of the handloom industry for the production of textile materials required by the Supply Department and close supervision of the operations to ensure that the articles made are up to specification. The Government considered that a special officer was necessary for the proper administration of these schemes. They accordingly sanctioned the creation of a temporary post of Yarn Commissioner who will work in close co-operation with the Industries and Co-operative Department. Mr. M. P. Pai, I.C.S., was appointed as Yarn Commissioner.

101. *Dye-stuffs.*—At the suggestion of the Director of Industries and Commerce in Mysore, an informal Dye-stuffs Conference was held at the office of the Director of Industries and Commerce, Madras, on 6th June 1941 in order to discuss the present position in regard to the distribution of dye-stuffs to the handloom weaving industry. The general conclusions arrived at the Conference were communicated to the Government of India who it is learnt have framed the rules relating to the importation of dye-stuff but they have reached no final decisions so far regarding the other aspects of the dye-stuffs control scheme. In regard to the encouragement of indigenous dyes, Government have directed the Director of Agriculture to take steps to do propaganda in favour of indigo and turmeric and to induce cultivation of these as far as possible. The Vegetable Dyes Committee suggested (1) the preparation of standard extracts of a few carefully chosen dyes, (2) the preparation of dye extracts for colouring foods and allied articles and (3) synthetic work on the preparation of new dyes from one or two natural colouring matters chosen as raw materials. It is reported by the Government of India that the schemes of research on vegetable dyes in accordance with these lines of encouragement are in progress.

102. *Hand-spinning and khadi manufacture.*—The audit conducted by the Accountant-General of the profit and loss accounts as well as the stock accounts showed that the financial position of all the three branches of the All-India Spinners' Association in this Province was on the whole satisfactory, but there were indications of excessive accumulation of stocks. Having regard on the one hand to the undesirability of letting production greatly exceed demand and on the other hand to the desirability of giving employment to as many spinners and artisans as possible the Government decided that the needs of the situation could best be met by limiting the grant and subsidy to the average of the previous three years net receipts under the Madras Regulation of Sale of Cloth Act, which was introduced solely with the object of encouraging the hand-spinning movement. A provision of Rs. 1.10 lakhs was accordingly made in the budget for 1941-42 for this purpose. Under this arrangement the subsidy earned will be paid in full while any balance in the budget provision will be paid as grants for other purposes.

103. The Government approved the proposals of the All-India Spinners' Association, Tiruppur, for the utilization of an amount of Rs. 50,723-5-4 by the branches of the Association in this Province Tamil Nad (Tiruppur), Andhra (Masulipatam) and Keraia (Calicut) in order to finance the manufacture and supply of implements, employment of workers, cost of training of workers, development of Kalamkari printing and commission to agents, salesmen and hawkers with a view to increasing the volume of sales. Government also sanctioned a subsidy of Rs. 52,008 to cover possible losses caused by inexperienced workers and to enable adequate wages to be given to the spinners and other artisans based on the actual increase in the production of khadi during the year calculated at the rate of one anna per square yard of increase. In regard to the famine areas, a grant of Rs. 3,200 including a subsidy of Rs. 575 calculated at the rate of annas eight per viss of yarn produced, was sanctioned in respect of schemes for development in Yammiganur (Bellary district) and Gudur (Kurnool district). This year, the Secretary, All-India Spinners' Association, Tiruppur, applied to the Government for a capital grant of Rs. 80,000 for the purpose of opening a khadi institute and equipping a workshop at Tiruppur. After a careful examination of the objects of the proposed khadi institute, Government declined to sanction the grant applied for in respect of the institute over and above the grant *cum* subsidy sanctioned to the Association annually for the development of hand-spinning in this Province. Government accorded sanction to the payment of a sum of Rs. 19,820 for the purchase of machinery and implements immediately required for completing the equipment of the workshop. A total grant and subsidy of Rs. 1,25,751-5-4 was disbursed during the year. A sum of Rs. 7,052 was recovered from the Association being the amount refundable by them as found after test auditing the accounts of 1940-41.

SERICULTURE.

104. *Staff.*—Sri K. T. Achaya continued as Sericultural Expert throughout the year. The Sericultural Expert was on tour for 120 days in the year exclusive of local tours of inspection of the Sericultural villages round about Kollegal, as against 105 days in the previous year. He attended the Government of India Silk Conferences held in August 1941 and also in January 1942 at New Delhi where important matters connected with the future development of the silk industry were discussed specially pertaining to the supply of filature raw silk suitable for manufacture of parachute fabric, cords, tapes, etc.

105. *Grant-in-aid by the Government of India for the development of the sericulture industry.*—The scheme for the production and distribution of disease-free cellular seeds and for the conduct of research on the disease of silk worms as also the new scheme for the production and distribution of disease-free cross-breed seeds in the Kollegal taluk, sanctioned by the Government of India continued in operation during the year. The full staff of three farm managers, two clerks, nine moth testers, 21 operatives on moth-testing and cross-breed work, two mulberry cultivators and one Pathology Assistant for research work sanctioned under this scheme were employed during the year with the exception of one Farm Manager (Hosur) and two clerks who continued only for a portion of the year. The Peripatetic Rearing Party, Kollegal, consisting of 14 moth testers of whom nine are borne on the establishment of the Government of India Subvention Scheme, one Silk Reeling Demonstrator and one Rearer stationed in the important rearing villages of Kollegal continued to work under the supervision of the Silk Superintendent. The party tested 985,245 layings during the year ended with 31st March 1942, in addition to their work of preparation and distribution of disease-free cross-breed seeds on a commercial scale among the rearers of the Kollegal taluk. It is needless to repeat that the village rearers have mostly taken up to the rearing of only cross-breed worms, knowing as they do that cross-breed worms give them higher yield than the indigenous Mysore race.

106. *Aided grainages.*—The ten aided grainages stationed in the important rearing villages of Alahalli, Chennalinganahalli, Chilakuvadi, Hondrabalu, Hosamalangi, Kamakarai, Kannur, Kongralli, Singanellur and Thagarapuram continued to function satisfactorily during the year. They tested and distributed in all 1,233,593 layings which consisted of Pure Mysore 400,439 layings and cross-breed 833,154 disease-free layings during the year as against Pure Mysore 451,777 cross-breed 832,409 disease-free layings in 1940-41.

107. *Research on diseases of silk-worms.*—A number of experiments were conducted in connexion with researches on the curative aspect of pebrine disease. The results were as follows:—

- (1) The incidence of the disease was brought down considerably in the first generation itself.

- (2) Disease-free layings of pebrinized lot which were fed with a mixture of formaldehyde, ammonia and water gave a good yield of cocoons where as untreated lots of the same batch gave no cocoons.
- (3) A few batches of disease-free white layings containing 87 to 90 per cent pebrine were selected and reared with mulberry leaves sprayed with higher percentage of the mixture than in the previous experiments and it was observed that percentage of pebrine was considerably reduced.
- (4) A few cross-breed layings containing 80 per cent pebrine were taken and reared feeding the worms with leaves sprayed with the same mixture and this lot progressed very well and the worms spun good cocoons without any loss due to pebrine, showing thereby that even cross-breed worms affected with pebrine could be made to spin cocoons by resorting to this treatment.
- (5) A few trials on a field scale were also conducted in the villages on the above lines by selecting worms affected with pebrine and feeding them with leaves sprayed with a less percentage of formaline and ammonia. The result obtained showed that the treated lots progressed better than the untreated ones and the village rearers were shown the efficacy of this treatment. Further experiments with increased percentage of mixture will be undertaken with a view to find out whether the disease can be completely eradicated. Experiments on a laboratory scale using increased percentage of the mixture are under progress. This will be followed with similar trials on a field scale with a view to arrive at conclusive results. A reference in regard to the question of correct refrigeration of cross-breed layings was made in the last year's administration report. The question is engaging the attention of the department and no confirmatory results have been obtained as to the maximum number of days these seeds can be safely refrigerated. As already stated refrigeration for a period of three to four months would seem necessary for the successful hibernation of univoltine seeds.

108. *Cross-breed seed supply.*—The six departmental cross-breed centres stationed in the important sericultural villages of Kamakarai, Kungahalli, Kuntur, Lakkarasanpalayam, Mangalam and Thagarapuram which were staffed by experienced moth testers prepared and distributed 638,038 disease-free cross-breed layings in all during the year under review, whilst the ten aided grainages prepared and distributed 833,154 disease-free cross-breed seeds. The departmental staff have been exhibiting a keen interest in the production and distribution of disease-free cross-breed seeds among the rearers, in spite of keen competition from clandestine seed producers who bring cross-breed seeds from the neighbouring Mysore parts and sell them to the rearers in these areas at a cheaper cost than the departmental rate. Even

against these odds, the cross-breed seeds prepared and distributed by the department have established their popularity among the rearers. The fact that there exists a very keen demand for the 'Sirkar cross-breed seeds' and that these seeds give a larger yield of cocoons possessing richer silk content coupled with the additional advantage of taking a shorter duration for rearing need no repetition. The rearers are convinced of the eventual economic benefits they are deriving by taking to the rearing of cross-breed seeds.

109. *White-seed cocoon supply.*—It is becoming increasingly difficult to get disease-free white cocoons which are fresh and vigorous. To some extent attempts to produce disease-free white cocoons have proved successful by resorting to the gut examination method and cellular seed rearing. By these means the pebrine disease has been eliminated to a remarkable degree but how long the brood can be kept up free from disease remains to be studied. The same case applies to the maintenance of the purity of the univoltine races specially in a tropical country. The incidence of the pebrine disease was brought down to a considerable extent and pure white layings containing the least percentage of pebrine were produced at Kollegal and supplied to the different Government silk farms and private rearers and thus a regular and assured supply of white seed cocoons has so far been maintained. From 1st July 1941, 10,768 disease-free layings of foreign variety were prepared and supplied to the Government silk farms and private rearers. During the course of preparation of white layings 640 layings of univoltine character were obtained. They were all hibernated in the refrigerator in different batches. A few of these batches were released and reared with a good yield of healthy cocoons. In order to keep up the purity of the white race without further deterioration, several small batches of pebrine-free layings were selected and reared in an ideal rearing house, quite free from contamination and with improved methods of rearings. Consequently the cocoons harvested were found to be quite healthy. These were exclusively used for purposes of seed preparation for supplying to the Government Farms. The proposals suggested at the Second All-India Sericulture Conference held at Lucknow in the year 1940 to set up a Central Sericulture Research Station, have not yet materialized. The problem of securing pure white races can be solved, if the above proposal materializes. One of the resolutions passed in the conference was that the Government of India should be requested to get foreign white seeds from Iran. Accordingly 20 oz. of Iranian seeds were promised by the Sericulture Department of Kashmir State to be supplied in four batches at different intervals. The first instalment of 5 oz. of white seeds has already arrived. These will be reared with due care. The rearings of these Iranian seeds if successful will solve for at least one year, the difficulty of securing good white cocoons as the Iranian cocoons could be utilized for revitalizing our deteriorated white seed.

110. *Coonoor Silk Farm.*—The Coonoor Silk Farm has nearly two acres under mulberry and castor. Although much attention was paid to the cultivation and different manurial and cultural methods were employed, the mulberry plantation showed comparatively poor growth due to unfavourable seasonal conditions. As reported in the previous year this farm functions as a departmental centre for the production of Eri eggs or seeds for purposes of distribution to all the centres in the Province. During the year nine crops of Eri worms were raised and 15½ lb. of cocoons were harvested. Eri eggs were supplied to a dozen centres in the Province. Besides four crops of mulberry silkworms were also raised in the farm and 56½ lb. of cocoons were harvested. Mulberry cuttings were supplied to a private party. A few experiments on mulberry cultivation with green manure crops were conducted.

111. *Palmaner Silk Farm.*—This farm has five acres of leased land under mulberry cultivation. This farm functions as a centre for rearing pure white race and to supply white seed cocoons to Kollegal for the preparation of cross-breed layings. Twenty-two rearings were on the whole conducted during the year and a total quantity of 690 lb. counting 408,547 cocoons were harvested. Out of these 647 lb., 13 oz. counting 386,947 cocoons were sent to Kollegal for the preparation of cross-breed seeds and the rest were reeled in the farm. The output of cocoons would have been far higher but for the failure of a few rearings due to sudden outbreak of pebrine disease. Three candidates were trained in sericulture in this farm during the year. One of them has been employed as an Instructor in Sericulture on Rs. 20 per mensem in the Board Higher Elementary School, Palmaner. A number of private parties were supplied with mulberry cuttings during the year under review.

112. *Hosur Silk Farm.*—The farm has 13½ acres under mulberry cultivation as in the previous year and yielded nearly 41,000 pounds of mulberry leaves. Twenty-eight rearings were on the whole conducted during the year in the farm with 6,870 disease-free layings, and 4½ oz. univoltine eggs. The total quantity of cocoons harvested out of these rearings were 1,393 lb. counting 793,360. Out of this 1,048½ lb. counting 620,070 cocoons were sent to Kollegal for the preparation of cross-breed seeds and the remaining being cross-breed cocoons were steamed and reeled. These yielded 17 lb. 3 oz. of raw silk. Large supplies of mulberry cuttings were, as in the previous years, made to the various district centres and to a number of private parties also. The farm participated in the All-India Swadeshi and Industrial Exhibition held at Salem in August 1941. Practical demonstrations in the methods of silkworm rearing and silk reeling on the foot reeling machines were conducted for the benefit of the visiting public. The Sericultural section was awarded a gold medal certificate.

113. *Thadaguni Silk Farm.*—This farm has 5.14 acres of leased land under mulberry cultivation. During the year under report 27 rearings in all were conducted in the farm with 3,410 white

disease-free layings and 1,060 pure Mysore disease-free layings. The total quantity of cocoons harvested from the rearings were 1,205 lb. counting 553,240. Some of the rearings conducted in the farm did not yield good harvests due to outbreak of pebrine disease. During the year four students underwent a course of sericultural training in the farm. One of them is Sumitran Rao Ullal, B.Sc. (Agri.) who has since been appointed as a Farm Foreman in the Government Silk Farm, Hosur. The Farm Manager besides his usual activities in the farm, was educating the village ryots in the conduct of successful rearings, etc. As a result, nine new ryots of Thadaguni and Hosur villages have, during the year, planted nearly 30 acres of land with mulberry. The cuttings required for the lands were supplied by this farm.

114. *Silk reeling.*—Government in their order Ms. No. 2241, Development, dated 8th December 1941, having sanctioned the scheme of free distribution of Japanese model foot reeling machines with re-reeling attachments among the reelers, 62 machines were manufactured during the year and 34 machines have been distributed. The remaining 28 machines have been kept under reserve as a measure of war emergency with a view to train local men in reeling.

115. *District work.*—The five sericultural demonstrators of the department were stationed at the following important district centres: Berikai, Denkanikota and Hosur in Salem district, Tenkasi in Tinnevely district and Kshirasagaram in Chittoor district. They have been carrying on intensive propaganda work. The total acreage under mulberry cultivation in all the district centres is about 500 on the whole and much useful work has been done at the Berikai centre. As a result of the intensive propaganda more and more people are coming forward to take up to sericulture in this area. A few families have done good reeling also in this centre. The department continues to render assistance to the rearers in finding markets for their cocoons and reeled silks. The Berikai centre is being developed as a departmental seed area so that Kollegal may draw her supplies of good seed cocoons from Berikai. Seven experimental rearings with 675 disease-free layings were conducted at Tenkasi with a total yield of 239 lb. of cocoons. In the Kshirasagaram area there are about 14½ acres under mulberry cultivation. Altogether 266,812 seed cocoons were produced in this centre. The Sericultural Demonstrator who was stationed at Kudligi till November 1941 was transferred to Denkanikota. As a result of propaganda work mulberry cultivation is spreading now in this new area. The Sericultural Demonstrator at Hosur who has been carrying on much intensive propaganda in the surrounding villages of Hosur area has introduced sericulture in the villages of Arteri, Udamapalli, Denkanikota and Hanumanthapur in addition to some more villages in Berikai and Athimugam centres. The industry has developed considerably in the Hosur area and it is hoped that this centre will show still better progress during the year 1942-43.

116. *Eri culture.*—In the absence of a ready market offering remunerative prices for eri cocoons, the eri silk industry has

suffered a set back. This cottage industry could be revived only when conditions are favourable and competitive prices for eri cocoons could be obtained.

117. General.—The year 1941-42 witnessed in general, better conditions in respect of the sericulture industry, than in the previous year. Good rainfall, the increase in the price of mulberry cocoons and silk due to war and demand for the parachute fabric were the chief causes for the development of the industry. There was good rainfall during two important rearing seasons of the year mungar and tharagaddi but from January to March 1942 there was little or no rain. There was a maximum rainfall in April 1941. Many of the ryots planted mulberry in their lands in preference to ragi and cotton due to the increase in the prices of mulberry leaves, cocoons and silk and the return was more profitable. Consequently the number of rearers in each village was larger and the reeling establishments also proportionately increased. The silkworm rearers got ready cash advances for their crop of worms. Due to the natural advantages the ryots had in the beginning of the year, the department was able to secure a continuous supply of good and robust cross-breed worms from the village rearers, for the extraction of guts. In fact a number of village rearers volunteered to supply good quality ripe worms, with the result that this department was able to manufacture and supply several lakhs of guts to Medical Store Depot without any difficulty. But conditions proved unfavourable at the close of the year due to want of rains and dry heat prevailing which affected the rearings of silkworms to a certain extent. The area under mulberry cultivation during the year 1941-42, as reported by the local Revenue authorities is, 8,479 acres as against 5,879.92 acres in the previous year. The price of cocoons rose to Rs. 25 per maund and that of charka silk to Rs. 400 per maund. But from January 1942 onwards the prices of cocoon and silk were often fluctuating and came down to Rs. 13-8-0 to Rs. 14 subsequently. It is needless to point out that the present international situation due to war conditions has reacted considerably on the silk market. The prices of cocoons have again gone up to Rs. 18 to Rs. 21 per maund and it is difficult to say when conditions will settle down to normal. The year 1941-42 was favourable from the sericultural point of view since the prices for cocoons and silk soared high. Consequently the village rearers were benefited to a great extent and their economic conditions improved.

ENGINEERING SECTION.

118. Staff.—Sri P. Govinda Menon, B.E., continued to be Industrial Engineer throughout the year assisted by four Assistant Industrial Engineers, three of whom were in charge of the three divisions, Bezwada, Tanjore and Coimbatore, and the fourth in charge of the Industrial Engineering Workshops at Madras. The Madras and Chingleput districts forming the Madras division continued to be directly under the control of the Industrial Engineer.

Messrs. C. H. Ranga Rao, officiating Assistant Industrial Engineer, Bezwada, and R. Subramania Ayyar, officiating Assistant Industrial Engineer, Tanjore, were reverted as supervisors their probation having been terminated by Government and they were relieved by Sri A. Somaraju and B. Narasimha Rao, supervisors, first and second grade on 9th and 8th August 1941, respectively, and the latter continued to be Assistant Industrial Engineers, Bezwada and Tanjore divisions, respectively, during the remaining period of the year under report. Messrs. Thomas Tharyan and S. Gopala Ayyar continued to be Assistant Industrial Engineers, Coimbatore division and Industrial Engineering Workshops, Madras, during the year under review. During the year under report, Government, in their order No. 2019, Development, dated 4th November 1941, were pleased to sanction the permanent retention of 50 per cent of the temporary staff of the District Engineering branch, viz., 7 drillers, 7 assistant drillers and 61 boring maistris and also the appointments of nine additional temporary peons—G.O. No. 1345, Development, dated 25th July 1941—for one year from 1st September 1941 to the mechanics-in-charge of the subdivisions newly constituted as per G.O. No. 2366, Development, dated 4th October 1940.

119. Boring.—The department maintained 14 Armstrong power drills, one air compressor drill and 121 hand boring sets including the fifteen additional hand boring sets manufactured as per G.O. No. 105, E. & P.H., dated 10th January 1939, solely for work connected with the rural water-supply comprehensive scheme. These additional sets which were allotted to the divisions were at work during the year in the districts in connexion with the scheme. During the year, the Bucyrus Armstrong diesel engine drill, the purchase of which was sanctioned in G.O. No. 86, Development, dated 9th January 1940, was received from England. After the drill was assembled and a trial run was taken, it was deputed for the work of the Maharaja of Pithapuram at Gulaby, Adyar, for conducting borings. Including this, the number of power drills maintained by this department is fifteen excluding the air compressor drill. The following table exhibits the territorial distribution of applications received for boring, the number of feet bored in each of the four divisions and other relevant particulars:—

Division.	Applications pending on 1st April 1941.	Applications received during 1941-42.	Applications disposed of during the year 1941-42.	Applications pending on 1st April 1942.	Total number of feet bored.	Total number of borings.	
						Put down.	Successful.
Bezwada	44	196	203	37	23,911	325	291
Tanjore	29	140	134	35	16,391	258	237
Coimbatore	20	140	138	22	10,608	221	142
Madras	4	58	56	6	5,510	93	58
Total	97	534	531	100	56,420	897	728

It will be seen that the total number of borings put down and the depth bored during the year were 897 and 56,420 feet, respectively, as against 733 and 49,267 feet, respectively, in the previous year. There was an increase in the number of borings put down and depth bored as compared with the last year although the borings put down and depth bored in Tanjore division showed a light decrease due to the delay in supply of labour and providing transport facilities by the Revenue department. The percentage of successful borings is 81.16 as against 78.72 of last year. In addition to the 15 additional boring sets manufactured solely for the rural water-supply scheme, 72 departmental sets were at the close of the year engaged exclusively on operations in connexion with the rural water-supply scheme. Even with the additional boring sets it was not possible to meet the demand of the Collectors, district boards and panchayats and several requisitions from the public for putting down bore-wells for domestic and agricultural purposes could not be taken up. It will be necessary to provide more sets if the increasing demands were to be met with promptly. The amount expended on boring operations by the hirers of the departmental sets during the year is estimated at Rs. 2,51,199. Out of 897 borings put down, 214 borings were for agricultural purposes. The deepest of the borings completed during the year by a hand boring set is 523 feet and a power drill 432 feet.

120. *Artesian borings.*—At the close of the previous year the department had to its credit 195 artesian bore-holes. During the year under review, three artesian springs were tapped, two in Bezwada division and one in Tanjore division. In a 4-inch ground boring put down for the Ellore Municipality at Baptispeta (S. No. 240), Ellore town, West Godavari district, up to 280 feet below ground level, a feeble artesian spring was tapped at 196 feet below ground level discharging $2\frac{1}{2}$ to 3 gallons per minute at 1 foot 6 inches above ground level. The water is fresh and drinkable. It is proposed to construct a cement cistern to serve as a storage tank around the bore-hole and fix $\frac{1}{2}$ inch pipe lining and taps. The bore-hole is lined with 4-inch pipes of 186 feet of the municipality with a departmental 4-inch shoe. The total cost of the boring is reported to be Rs. 1,104. In a 6-inch by 4-inch ground boring put down at Kondajutur (S. No. 100), Rajahmundry taluk, East Godavari district, up to 280 feet below ground level, an artesian spring was tapped at 254 feet below ground level discharging 20 gallons per minute at 1 foot above ground level. The boring is for agricultural purposes and the party proposes to bring four more acres under cultivation as a result of the artesian spring and expects to derive an increased income of Rs. 400. The bore-hole is lined with party's own pipes of 254 feet 6 inches. The total cost of boring is reported to be Rs. 800. A bore-well of 75 feet put down at Aivannallur, Negapatam taluk, for the rural water-supply scheme tapped a feeble artesian spring which discharged 2 gallons per minute at 6 inches above ground level. The water though slightly brackish is reported to be usable.

121. *Sub-artesian springs.*—Amongst the successful sub-artesian spring or springs which do not naturally rise to ground level the following may be mentioned: In a 6-inch ground boring put down at Vizagapatam up to 202 feet below ground level, sub-artesian springs were tapped at 112, 146 and 170 feet below ground level and water level rose to 82 feet below ground level. When the spring was tested with a 4-inch pitman pump, it was observed that the bore-well yielded 8 gallons per minute at 140 feet below ground level. The boring is for drinking water-supply and it is lined with 108 feet 5 inches of 6-inch pipes. The quality of water is good and it is reported that the party proposes to instal a power pump to utilize the bore-well supply. In a 4-inch boring put down up to 523 feet below ground level in an existing pit of 30 feet deep at Kondajutur, Rajahmundry taluk, for agricultural purposes a good sub-artesian spring was tapped at 480 feet below ground level and the bore-well yielded a constant supply of 300 gallons per minute at 27 feet below ground level. Fifty acres of land under paddy are proposed to be irrigated (two crops annually) with the supply from the bore-well. An unconstructed pit of 30 feet deep only exists now and it is proposed to construct a well around the bore-well and utilize the supply with a 4-inch power pumping plant which is estimated to cost about Rs. 5,000. The supply of the bore-well was tested with an oil engine and 4-inch centrifugal pump and the discharge was found to be 200 gallons per minute at 18 feet below ground level. The water is fresh and fit for irrigation. The bore-hole is lined with 72 feet of departmental and 380 feet of party's 4-inch pipes and it is reported that it cost the party Rs. 1,600 to conduct this successful boring. In a 6-inch by 4-inch boring conducted in an existing well of 9 feet deep in the same village up to 500 feet below ground level springs were tapped at 188, 218 and 234 feet below ground level and when tested, the bore-well was observed to yield 20, 30 and 60 gallons per minute at 7 feet below ground level. The party proposes to bring 20 acres under irrigation with the supply available. The bore-well is lined with 225 feet 9 inches of party's 4-inch pipes and the party is reported to have incurred an expenditure of Rs. 1,500 to put down this successful boring. A citizen of Marrikunta, Nuzvid taluk, Kistna district, applied for the services of a hand-boring set to put down an artesian boring for agricultural purposes. A 6-inch by 4-inch boring to a depth of 325 feet below ground level was conducted. Good sub-artesian springs were tapped and water level stood at 10 feet below ground level. Though the supply was plenty at 30 feet below ground level, the party abandoned the boring as artesian springs were not tapped. A 6-inch boring was put down in a well of 28 feet deep at Ramarajukandrika, Tiruvallur taluk, to a depth of 52 feet and a strong sub-artesian spring was met with which supplied 60 gallons per minute at 25 feet below ground level. Before boring there was not enough supply in the well for a 4-inch by 3-inch power pump. After boring the well is reported to be supplying continuously for a 4-inch by 3-inch pump and the party can irrigate 12 acres of paddy crop in addition to the seven acres

already under irrigation under the well. In a 4-inch boring put down up to 48 feet below ground level in an existing well of 25 feet deep at Tirupasur, Tiruvallur taluk, Chingleput district, good springs were tapped and the yield of the bore-hole is 80 gallons per minute at 28 feet below ground level. Due to the increased supply, the party proposes to bring two more acres of land under irrigation. An existing 4-inch boring in a well 28 feet deep in Tiruvallur taluk was cleaned up to 41 feet below ground level and the bore-hole supply is estimated at 150 gallons per minute at 27 feet below ground level. Before cleaning, the party was irrigating one acre of land. Now it is reported that he proposes to irrigate 20 acres of paddy crop with a power pump. A 6-inch boring was put down at Kuravathur, Madurantakam taluk, Chingleput district, under the rural water-supply scheme to a depth of 69 feet 10 inches below ground level. Fresh water springs were tapped between 66 and 69 feet below ground level and the bore-hole supplies 10 gallons per minute at 55 feet below ground level. A new model pump is proposed to be installed over the bore-well to utilize the supply for drinking purposes. A 6-inch boring was put down at Anakattu, Madurantakam taluk, under the rural water-supply scheme to a depth of 43 feet. Fresh water spring was met with between 20 and 30 feet below ground level and the bore-hole supplies 10 gallons per minute at 7 feet below ground level. A shallow well lift pump with a suction of 20 feet is proposed to be fitted up over the bore-hole. Five borings were put down during the year for the Poonamallee Health Unit out of which three proved successful but water from one of them could not be made use of as the bore-hole is reported to have collapsed. One bore-well was cleaned during the year. As was mentioned in the last year's report reinforced concrete (cement) pipes were used in lining the bore-holes and it is reported that 22 bore-wells in Bezwada division and 7 in Tanjore division were lined with reinforced concrete pipes and it is expected that the use of these pipes will be on the increase during the coming year owing to the difficulty in procuring metal pipes due to abnormal increase in their price on account of the present international situation. The use of departmental new model pumps was also on the increase during the year and 14 such pumps were installed during the year in Bezwada division, over the bore-wells put down for the rural water-supply scheme. It is reported that the pumps have been giving entire satisfaction and that their manipulation is easy. It is expected that a number of such pumps will be installed during the coming year.

122. *Work of the power drills.*—The power drills of the department worked on the whole satisfactorily. The new diesel engine drill ordered from England arrived during the year. After taking a trial run of the drill, it was deputed to the work of the Maharaja of Pithapuram at Adyar. A 10-inch by 8-inch by 6-inch by 4-inch ground boring was put down to a depth of 379 feet below ground level at Vuyyur, Kistna district, for the Vuyyuru Agricultural Industrial and Co-operative Credit Society with a view to obtain good supply of water for the use of the boiler of the sugar factory.

Three springs were tapped at 260 feet, 290 feet and 350 feet below ground level and the water level stood at 10 feet below ground level. When tested with a power drill water-shell, the bore-well gave a discharge of 35 gallons per minute, at 35 feet below ground level. Six-inch pipes of 295 feet and strainer pipe of 80 feet coupled were inserted into the bore-hole and the departmental 10-inch and 8-inch pipes were removed after insertion of 6-inch, 5-inch and 4-inch pipes. Air compressor drill of the department was utilized for testing the supply and it was observed that the discharge from the bore-well was 200 gallons per minute at 175 feet below ground level. The water tapped is good and the supply copious. Satisfied with the result of the first boring the society started a second boring in quest of an artesian spring. A 10-inch by 8-inch boring was put down for the society within a distance of one furlong from the first boring up to a depth of 358 feet below ground level. While the boring progressed up to 180 feet below ground level, an inflammable gas was met with and it shot up carrying with it decayed roots, ashes and stones mixed with fine sand for five minutes and disappeared as the pipes were lowered down. The boring was under progress at the close of the year. At Narsipuram, Parvatipur taluk, Vizagapatam district, an 8-inch by 6-inch ground boring was put down for the rural water-supply scheme to a depth of 307 feet below ground level with a view to supply drinking water to the inhabitants of the village. Brackish springs were tapped and the bore-hole was found to yield 4 gallons per minute at 140 feet below ground level. Though the quality of water is found to be slightly insipid, it is reported that the supply is proposed to be utilized for domestic purposes by installing a pump considering the water scarcity in the locality. The bore-hole is lined with 153 feet 8 inches of 6-inch and 23 feet 6 inches of 8-inch pipes with shoes. A 10-inch by 6-inch ground boring was conducted for the Executive Engineer, Public Works Department, Vizagapatam, in the compound of the King George Hospital, Vizagapatam. Ten-inch boring proceeded up to 170 feet below ground level and 6-inch boring was continued from 170 feet to 200 feet below ground level. Three springs were tapped at 59, 103 and 137 feet below ground level and water level stood at 12 feet below ground level. When tested, the bore-well was found to yield 70 gallons per minute at 90 feet below ground level. The water is used for drinking purposes and it is proposed to instal a power pump at an estimated cost of Rs. 5,000 to utilize the supply from the bore-hole which is lined with 38 feet of departmental 10-inch pipes and a 10-inch shoe. A 10-inch ground boring was put down for the Collector of Vizagapatam under rural water-supply scheme at Adavivasam, Vizagapatam taluk, up to 210 feet below ground level. First trace of moisture was met with at 25 feet below ground level and fresh water springs were tapped at 25, 160, 196 and 225 feet below ground level and water level stood at 23 feet below ground level. When tested with a pitman pump, the bore-well was found to discharge 32 gallons per minute at 67 feet 3 inches below ground level. The water is used for drinking purposes and it is proposed

to instal a hand pump at an estimated cost of Rs. 300 to utilize the supply. The bore-hole is lined with 10-inch pipes of 99 feet and a shoe of the department. A 10-inch ground boring was conducted in the Central Jail, Trichinopoly, up to 350 feet below ground level. Feeble springs were tapped at 9 feet, 53 feet and 316 feet 6 inches below ground level and water level stood at 3 feet below ground level due to surface springs. After the bore-hole reached the depth of 350 feet, it was tested and it was found to yield 3 gallons per minute at 240 feet below ground level when the side springs were completely closed. The quality of water is good. The bore-hole was abandoned as the springs tapped were feeble and the supply from the bore-well was inadequate for the requirements of the jail. A 10-inch by 8-inch boring was conducted in Survey No. 159/2-B of Sankarankoil village, Sankarankoil taluk, Tinnevely district. The 10-inch boring proceeded up to 30 feet and then 8-inch boring was continued up to 432 feet below ground level and this is the deepest boring put down by a power drill during the year. Springs were tapped at 35 feet below ground level and the water level stood at 10 feet below ground level. When tested, the bore-hole was found to yield 5 gallons per minute at 35 feet below ground level. 29 feet 6 inches of departmental 8-inch pipes were inserted into the bore-hole and it is reported that the water is used for dyeing purposes. The applicants proposed to instal a deep well pump at an estimated cost of Rs. 500 to utilize the supply and it is reported that it cost them Rs. 2,075 to put down this boring. Two 10-inch borings and one 8-inch boring were put down at Nerkuppai, Ramnad district, for the President, Panchayat Board, up to 125, 115 and 224 feet below ground level, respectively. In the first two borings, springs were tapped at 110 and 69 feet below ground level, and water level stood at 17 feet and 9 feet 8 inches below ground level, respectively. The bore-holes, when tested were found to yield 12 and 40 gallons per minute at 67 and 40 feet below ground level respectively. The water tapped in both the bore-holes is potable. In the third boring feeble springs were tapped at 29 and 97 feet below ground level and water level stood at 11 feet below ground level. The bore-hole gave a discharge of 8 gallons per minute at 118 feet below ground level. The water is a little brackish. The panchayat board propose to instal hand pumps over the bore-wells to utilize their supply for domestic purposes. Another 8-inch boring was conducted in the same place for a local gentleman up to 153 feet below ground level. A spring was met with at 98 feet below ground level and water level stood at 18 feet 9 inches below ground level. The bore-hole when tested, was found to discharge 8 gallons per minute at 119 feet below ground level. The water is used for drinking purposes. Twenty-six feet of cement lining pipes were inserted into the bore-well. The boring put down at Kugalur, Coimbatore district, up to 302 feet below ground level proved successful. The bore-well yields 20 gallons per minute at 52 feet 6 inches below ground level. The new diesel oil engine drill (Bucyrus Armstrong) received from England was, after trials, deputed for the work of

the Maharaja of Pithapuram at Gulaby, Adyar. The drill put down a 10-inch ground boring up to 278 feet below ground level. A spring was tapped at 74 feet below ground level in coarse sand and the water level stood at 15 feet 7 inches below ground level. When tested with a pitman pump, the yield of the bore-hole was found to be 20 gallons per minute at 21 feet below ground level. As the springs tapped were brackish the boring was abandoned by the party. Two more borings were conducted and these also were abandoned as rising sand was met with. A fourth boring was conducted and it proceeded up to 430 feet below ground level and the drill was shifted to Meenambakkam for work at the aerodrome, as the party desired to continue the boring with a steam engine drill owing to the difficulty of procuring liquid fuel for the diesel engine. Ten 10-inch borings each to a depth of 16 feet were put down in soft rock. These bore-holes are intended for bore-hole latrine purposes for the University cadets undergoing training in the aerodrome. Towards the close of the year six power drills were working for the Collectors under the rural water-supply scheme, eight for the public and the new diesel oil engine drill for the A.R.P. Controller, Madras.

123. *Torpedoing operations.*—At the beginning of the year, six applications were pending and one more was received during the year. Five were disposed during the year leaving two on hand at the close of the year. In some cases the torpedoing operations increased the supply of water from bore-holes owing to the exposure of fissures.

124. *Pumping sets.*—The department maintained 22 pumping sets for hiring out to ryots to pump out water to their crops, during periods of drought or for well sinking and for the Collector of Chingleput for work in evacuation camps. At the commencement of the year four applications were pending. Forty-nine applications were received during the year and 49 were disposed of leaving the remaining to be dealt with in the coming year. A pumping set was continuously employed at the Central Jail, Trichinopoly, to pump out water for the use of the inmates of the jail. Two pumping sets were engaged by Elore and Cocanada Municipalities for pumping out water to the storage tanks from Elore and Cocanada canals. One pumping set was engaged for sinking a well in the Palar river-bed in connexion with water-supply scheme of the Wallajah Municipality. In addition to the above pumping sets, P.D. VII Air Compressor drill was utilized in testing the deep bore-holes put down by departmental boring and power drill sets. Six pumping sets were engaged for irrigation purposes and four were engaged for the Collector of Chingleput at Vengathur, Athur and Nandambakkam evacuation camps for pumping out water for drinking purposes.

125. *New investigations.*—There were at the commencement of year, six applications pending for investigation and advice. Three hundred and thirty-four applications were received and 392

were disposed of during the year and 8 were pending at the close of the year.

126. *Assistance to agriculturists and industrialists—New erections.*—The department undertakes the erection of machinery and plants on payment of a nominal fee on the capital cost of the machinery installed. The number of plants erected during the year is exhibited in the statement below :—

Division.	Pending on 1st April 1941.	Received during the year 1941-42.	Disposed of during the year 1941-42.	Pending on 1st April 1942.	Remarks.
Bezwada	6	27	26 *	7	* Twenty-five hand pumps over bore-wells put down. One pumping plant.
Tanjore	1	11	11 †	1	† One refunded; six hand pumps; one pumping plant; three industrial plants.
Coimbatore ..	1	9	8 ‡	2	‡ Seven hand pumps; one re-erection of toilet soap-making plant at Kerala Soap Institute.
Madras	1	..	1 §	..	§ Erection of workshops machinery for the Radio Engineer, Provincial Broadcasting, Madras at Kilpauk.
	9	47	46	10	

The capital invested in the above plants including the cost of building amounted to Rs. 38,330. The horse-power of the largest and smallest plant erected in each of the division is as follows :—

Division.	Largest h.p.	Smallest h.p.
Bezwada	5	..
Tanjore	15	7.5
Coimbatore ..	..	..
Madras	2.5	1/3

On account of the rise in price of machinery, liquid fuel and other oils due to the international situation, only a few applications for erection of regular pumping plants were received during the year. Among the erections completed during the year, mention may be made of the following :—During the year, at Pattiveeranpatti, Madras district, a coffee-curing plant was erected by the department for the co-operative and industrial society of the place. The plant consists of a huller, a winnower with oscillating sieves, a polisher with fan and a grader. The huller and polisher are driven by 7.5 and 10-b.h.p. motors, respectively and the winnower and grader by ½ h.p. motor. The plant is reported to be working satisfactorily. The erection of an automatic water-supply system similar to the one installed in 1939-40 over the bore-well put down at Moovalur near Mayavaram was under progress at the close of the year for the Panchayat Board, Edangimangalam, Trichinopoly district, over the

borehole put down by the department under the Rural Water-supply Scheme. Workshop machinery consisting of nine motors of horse-power ranging from ½ to 2 and drilling, milling, grinding, sawing, polishing machines, etc., were erected in the workshops of the Radio Engineer, Provincial Broadcasting, Madras at Kilpauk.

127. *Compounding system.*—Under this system, owners of private installations are entitled to have their plants inspected and overhauled three times a year on payment of a small fixed fee of Rs. 10 per annum and also at other times if special requisitions are received for which however a small additional fee is charged. The number of plants compounded during the year under review was 548 as against 482 in 1940-41. The following statement shows the number of plants under the departmental supervision in the four divisions :—

Divisions.	Industrial plants.	Pumping plants.	Combined plants.	Electrical plants.	Total.
Bezwada	21	64	1	10	96
Tanjore	79	216	13	10	318
Coimbatore ..	16	63	30	7	116
Madras	4	9	5	..	18
Total	120	352	49	27	548

The largest plant compounded was one of 165 B.H.P. and the smallest one was of 1 H.P. The value of the installation compounded during the year exceeded 14.76 lakhs. The compounding fee system which was extended to the District Board, Tanjore, for the systematic inspection of pumps installed over bore-wells put down by this department covered a net work of 100 bore-wells. Under this system, the departmental mechanics inspect the bore-well pumps for an annual fee of Rs. 2 per pump.

128. *Sugarcane crushing mills.*—The department is in possession of eight power-driven cane-crushing mills three with engines and five without engines. Six mills were engaged during the cane-crushing season. The remaining mills could not be hired out as engines required to run the crushers had been engaged for pumping purposes and other Government works. One engine T.E. No. 3 was lent to an applicant in South Arcot district for running his crusher for crushing canes. In G.O. No. 1031, Development, dated 5th June 1941, Government ordered that some sugarcane mills of the department without engines should be lent to the Cane Ryots' Association, Nellikuppam, South Arcot district, free of hire charges, and accordingly three departmental cane-crushers without engines were despatched to the Association from Madras. These crushers were erected and worked under the supervision of the departmental staff and they were of great help to the cane-growers at a time when their canes were on the point of withering for want of crushers. It is reported that about 940 tons were crushed by the departmental mills. The three mills were employed

to crush the canes of six members of the Association. No application was pending on 1st April 1941 and nine applications were received and all of them were disposed of during the year.

129. *Sugar manufacture.*—The department maintains three sugar centrifugals which are primarily intended for demonstrating the manufacture of white sugar from sugarcane or palmyra juice. Five applications were received during the year for the services of these centrifugals. One of the applicants withdrew his application. It is reported that a gentleman of Rajaputrapalayam, Cuddalore taluk, South Arcot district, to whom a departmental centrifugal was hired out for three months and fifteen days centrifuged over 60,000 lb. of rab into sugar with the aid of the machine.

130. *Services rendered to co-operative societies.*—The plants of the Kallakurichi, Pudur, Pattiveeranpatti and Kalyanpur Co-operative Societies were under the departmental supervision during the year for a nominal fee of Rs. 5 in each case. The coffee-curing plant for the society at Pattiveeranpatti was also erected during the year. A departmental power drill was lent to Vuyyur Agricultural, Industrial and Co-operative Credit Society, Vuyyur, Kistna district, for conducting borings for tapping water for the use of the boiler of their sugar factory. The drill completed a deep boring which proved successful and the drill was engaged at the close of the year for the same society in conducting a second boring which was in progress on 1st April 1942. A sugarcane crusher with an engine was hired out to the Hospet Co-operative Loan and Sale Society for crushing canes. It is reported that 142 tons of canes were crushed and 1,135 maunds of jaggery obtained and that an amount of Rs. 468-14-0 was realized by the sale of jaggery manufactured as against the expenditure of Rs. 366-8-6 incurred by the society for the work. A sugar centrifugal was lent to the Coimbatore Sugarcane Growers' Co-operative Union, Ltd., Coimbatore.

131. *Services rendered to departments of Government.*—During the year under review, the value of services rendered to Agricultural, Police, Revenue, Public Works, Jails, Customs, Labour and other departments in the various divisions amounted to Rs. 59,943-15-1 as shown below as against Rs. 53,590-2-11 during 1940-41 :—

Division.	Value of services rendered.		
	RS.	A.	P.
Bezwada	40,222	14	7
Tanjore	4,861	0	6
Coimbatore	11,778	0	0
Madras	3,082	0	0
Total ..	59,943	15	1

132. *Loans for purchase of pumping plants.*—The grant of loans under the Land Improvement Loans Act has been restricted to cases where there is reasonable prospect that by means of such loans the lands of the ryot could be improved and his income increased and where investigation has proved that the source of water-supply is unfailing and the adequacy of security offered for the loan is sufficient and the scheme is feasible from an agricultural standpoint. No loan was sanctioned during the year. During the year the power to sanction loans under the rules has been transferred to the Collectors and other officers of the Revenue Department—vide G.O. No. 696, Revenue, dated 22nd March 1941.

133. *Borehole maps.*—With a view to expedite the work of collection of data of borewells for preparing large size taluk borehole maps to draw underground water tables and correlation of results for different localities, Government in their Order No. 1015, Development, dated 3rd June 1941, sanctioned a special staff of two mechanics, two draughtsmen and one tracer. The special staff was employed during the year. Maps of the taluks of the Ceded districts and Chittoor were completed during the year and a set of these maps was supplied to the Board of Revenue. The maps of the taluks of Chingleput district required by the Executive Engineer, Public Works Department, Chingleput division, were nearing completion at the close of the year. The maps of taluks of other districts were in different stages of progress.

134. *The Industrial Engineering Workshop.*—The total value of work orders executed in the workshop during the year under review was as follows :—

	Amount realized.	
	1941-42.	1940-41.
	RS.	RS.
(1) Pumping and boring	63,837	55,432
(2) Inter-departmental	416	114
(3) Other Government departments and district authorities ..	14,778	26,742
(4) Private	1,537	643
(5) Industrial Engineering Workshop.	198	203
Total ..	80,766	83,134

The working of the concern during the year resulted in a net profit of Rs. 12,409 against a net profit of Rs. 13,389 during the previous year. The workshop maintained the usual apprentices, who are mechanical engineering students in the Government School of Technology, Madras. Up to the end of March 1942, thirty-three newly devised pumps were manufactured and supplied as against twenty-eight in the previous year

for the rural water-supply schemes to the District officers. During the year considerable difficulty was experienced in obtaining supplies of cast-iron water pipes for barrels and consequently the manufacture was held up for months for want of these pipes. The proposal of the Assistant Industrial Engineer for using wrought-iron pipes in the places of cast-iron pipes was approved and the difficulty felt has now been overcome without altering the design or impairing the efficiency of the pump. The Assistant Industrial Engineer points out, that the work in the workshop is somewhat handicapped for want of a foundry of its own. At present there is a miniature foundry attached with a crude pit furnace. The castings that are usually required are obtained from the local foundries. These could be easily manufactured in the workshop itself to great advantage if only it is provided with a small cupola. The question will be taken up and proposals submitted when the international situation eases. The Industrial Engineering Workshop was selected by the Government of India for training technical personnel for the war and a scheme for training 128 trainees was sanctioned. The training scheme was started on 3rd December 1941 and continued till after the close of the year, i.e., till 18th April 1942 when the section was transferred to Hindupur from Madras. There were 118 trainees at the time of transfer. The training has been resumed from June 1942 and it is now in full swing.

INDUSTRIAL EDUCATION.

135. *Staff*.—Mr. W. Fyfe continued as Inspector of Industrial Schools till 27th October 1941 when he went on leave preparatory to retirement. In G.O. No. 1928, Development, dated 23rd October 1941 the post of Joint Director of Industries and Commerce was created. The post of Inspector of Industrial Schools and Personal Assistant to the Director of Industries and Commerce was kept in abeyance. In the distribution of work between the Director and the Joint Director, the work relating to the Industrial Education was allotted to the Joint Director. Mr. P. Madhava Menon, I.C.S., who was appointed as Joint Director of Industries and Commerce became the Chairman of the Technological Diploma Examination Board and also attended to the duties of the Secretary of the Board. Similarly he was appointed as Member-Secretary of the School of Arts and Crafts Advisory Board. The Joint Director of Industries and Commerce was appointed as an official visitor to all the Central Jails, the Senior Certified School, Chingleput and the two junior certified schools at Bellary and Ranipet. The inspection of the non-textile aided schools and jails was conducted by the Superintendents of Government Industrial and Trade Schools, and the Principal and Lecturer of the Government School of Technology, Madras. The Government Industrial and Trade Schools were inspected by the Joint Director of Industries and Commerce.

136. *State technical scholarships*.—No scholarships were awarded for higher technical studies outside India.

137. *Scholarships tenable at the Victoria Jubilee Technical Institute, Bombay*.—The number of scholarships tenable at a time at this Institute is two of the value of Rs. 50 per month and they are awarded for the study of textile manufacture, the course extending to four years. There were two scholars under training at the end of the year both being in the final year class. A subsidy of Rs. 200 per annum was paid by Government to the Institute on behalf of each Madras Government scholar under training.

138. *Scholarships tenable at the Andhra University*.—The number of scholarships tenable at a time at the Andhra University is six of the value of Rs. 30 each per mensem and they are available for the study of B.Sc. (Hons.) in Technology with specialization in sugar technology or pharmaceutical chemistry, the course extending to three years. Six scholars were under training during the end of the year and no fresh scholarships were awarded during the period.

139. *Post-graduate scholarships tenable at the Indian Institute of Science, Bangalore*.—The number of scholarships tenable at the Institute is eleven of the value of Rs. 45 each per mensem and they are awarded to graduates in chemistry or physical science for research in various departments of study in the Institute for a period of three years. Six scholarships fell vacant during the year and of these four were awarded for study in the Departments of General, Organic and Bio-chemistry and two in the Department of Electric Technology. At the end of the year there were eleven scholars as shown below :—

General and Organic Chemistry	..	..	4
Bio-chemistry	..	..	5
Electrical Technology	..	..	2

140. *Scholarship tenable at the School of Mines, Dhanbad*.—The number of scholarship available for award at a time at the school is one of the value of Rs. 45 per mensem durable for a period of four years. It is awarded to a candidate of this province for study in Mining Engineering or Geology. As one scholar was studying at the school at the end of the year, no fresh scholarship was awarded during the year under review.

141. *Industrial scholarships*.—Under the provisions of Chapter IX of the Code of Regulations for Industrial Schools, sixty new scholarships tenable in each case for a period not exceeding five years and ranging in value from Rs. 1-8-0 to Rs. 7-8-0 per mensem were as usual awarded with effect from 1st July 1941 to pupils learning trades in various industrial schools recognized by the department. A bonus equivalent to two months average scholarships was also granted to the pupils who satisfactorily completed the prescribed courses of study during the year. The object of these scholarships is to encourage deserving pupils, who are in need of assistance, to remain long enough in an institution to acquire sufficient working knowledge in their trade.

142. Technological Diploma Examination Board.—The Board met four times during the year to consider the results of the examinations held under its auspices and various other subjects. In order to meet the demand for supervisors in ordnance factories an intensive course was given, as desired by the Chairman, National Service Labour Tribunal to the final year Automobile and Mechanical Engineering students and they were examined in January 1942 instead of in May 1942. The pre-final year class students are also being given a similar intensive training to enable them to take their final examination in October 1942 instead of in May 1943. The tenure of the membership of Sri Rao Bahadur C. V. Krishnaswami Chetti and the Chairman, Madras Motor Vehicles Merchants Association, which expired during the year was extended for another term of three years. The following table shows the number of students who appeared for the Board's diploma examinations and the number passed:—

Subject.		Number appeared.	Number passed.
Mechanical Engineering	..	156	63
Electrical Engineering ..	..	146	93
Printing Technology ..	..	9	6
Automobile Engineering	..	29	24

143. Government School of Technology, Madras—Staff and General.—Sri M. V. Jagannatha Ayyangar held the post of Principal till 9th January 1942 except for a short period of 17 days from 1st October 1941 when Sri N. S. Rajan, Senior Lecturer acted as Principal. From 9th January till the close of the year the services of Sri Jagannatha Ayyangar were lent to the Government of India and during his absence Sri N. S. Rajan acted as Principal. The school provides courses of instruction in Mechanical Engineering (five years), Electrical Engineering (four years), Plumbing (two years), Electric Wiring (two years) and Light-metal casting (one year) as well as courses in mechanical drawing for wood-workers, metal-workers, bricklayers, masons and plumbers each of two years duration. Students who satisfactorily complete the mechanical and electrical engineering courses are awarded the L.M.E. and L.E.E. diplomas respectively, while those who complete the printing course are awarded the L.P.T. diploma.

144. Admissions.—Admission to the various courses of study are restricted to bona fide apprentices and workmen who are actually engaged in the trade which they wish to learn. The number of new admissions during the year was 391 as against 375 in the previous year of which 69 were admitted to the electrical engineering course, 46 to the mechanical engineering, 38 to the printing and the remainder distributed among other courses such as wiring, plumbing and vernacular drawing classes. The strength of the school on 31st March 1942 was 762 including the preparatory

section and light-metal casting section. The average number of classes held during the week was 102 as against 108 in the previous session.

145. Examinations.—The diploma examinations in Electrical and Mechanical Engineering and Printing Technology were conducted during the year by the Technological Diploma Examination Board. In the diploma examination 38 students qualified for the L.M.E. diploma, 64 for the L.E.E. diploma and 6 for the L.P.T. diploma. In composing and proof-reading 28 came out successful and in Machine-minding 12 passed. The electric-wiring competency examination was conducted jointly by Mr. A. C. D. Rozario, Electrical Engineer (General), and Sri V. A. Patnaik, Electrical Engineer, Corporation of Madras. Two hundred and twenty-five students including 65 school candidates appeared and 155 were awarded the competency certificate of whom 53 were school students. Mr. E. H. Coe, Sanitary Engineer, Messrs. Richardson & Cruddas, conducted the examination in Plumbing and Sanitary Science and in these subjects, 33 students came out successful. The metal-workers and wood-workers drawing examinations were conducted by Sri R. R. Suryanarayana Ayyar of Perambur Works and in these subjects 33 candidates came out successful. The school continued to be the centre for the Technological Diploma Board Examinations, City and Guilds of London Institute examinations and the Victoria Jubilee Technical Institute entrance examinations. Four hundred and five candidates appeared for the City and Guilds examinations in August 1941.

146. Scholarships.—In addition to the 12 Government scholarships of the value of Rs. 15 each per mensem, tenable at the school for a period not exceeding five years, the Commissioner of Labour awarded nine non-residential scholarships to students belonging to the depressed classes, while the trustees of Sri Venkateswara Hostel continued to award seven scholarships of the value of Rs. 8 per mensem during the year. Scholarships of the value of Rs. 10 per mensem from the Dr. Rangachari Endowment Fund were awarded to four candidates. The Silver Wedding Fund scholarship of Rs. 180 per annum was awarded to a candidate during the year. The Muhammadan Educational Association of Southern India, Reddi Mahajana Sangam, Thuluva Vellala Association, the South Indian Railway Co-operative Society and the Victoria Technical Institute awarded grants and stipends to various students studying in the school.

147. Careers of ex-students.—The Principal continued to maintain an employment bureau with a view to securing suitable employments to the ex-students. The Government of India Technical Training Scheme absorbed a good many of the passed candidates for appointment as Instructors while four students were selected for training in England under the 'Bevin Scheme.' The Aircraft industry at Bangalore absorbed some students and almost all the Mechanical Engineering students have secured suitable jobs.

148. *Preparatory section.*—In this section selected boys who have passed Form I and are below 15 years of age are given a three years' course of general education heavily biased towards industry to prepare them to take up apprenticeships in workshops. The number of admissions to this section during the year was 62 and its strength at the end of the year was 122. In the final year examination 18 students came out successful. All the passed students have secured suitable jobs in the local workshops. The construction of the new buildings for this section was completed during the year and the classes commenced working in the new buildings from 16th August 1941.

149. *Perambur branch school.*—This school is attached to the Workshops of the Madras and Southern Mahratta Railway and caters for the apprentices and workmen employed in the workshops. The courses of instruction provided in the school are: (i) senior five-year course in mechanical engineering; (ii) junior three-year course in mechanical engineering; and (iii) two-year drawing course for fitters and carriage builders. The number of new admission to the school during the year was 51 and its strength at the end of the year was 156 as against 173 during the previous year. The final examinations were held by the railway officials and the passed students were absorbed by the company's regular establishment.

150. *Casting and metal-working class.*—The class continued during the year on a temporary basis. The course of training extends to one year and students are given instruction in the preparation and manufacture of articles of brass and other mettalic alloys using modern moulding processes. Twenty-six students were admitted during the year but seven dropped out without completing the course. Of the remaining eighteen students came out successful in the final examination. Stipends were awarded to nine students at the rate of four annas per day for ten months.

151. *Sports.*—The school is a member of the Madras Collegiate Athletic Association, and took part in the Inter-Collegiate Competitions. The football and hockey teams had a successful year although only one trophy was won in hockey during the year.

152. *Finance.*—The total expenditure on the School of Technology during the year was Rs. 84,577 and the receipts were Rs. 28,232 including the contribution made by the Madras and Southern Mahratta Railway Company, towards the cost of the teaching staff at Perambur school. The net cost to Government in maintaining the school was Rs. 56,345 or Rs. 73-15-0 per student per year as against Rs. 54-4-10 in the previous year.

153. *Government Industrial School, Madura—Staff and general.*—Sri A. R. Doraiswami Ayyar continued to be the Superintendent of the school throughout the year except for a short period of 17 days during which the Assistant Lecturer of the school

held additional charge. The school is catering the needs of the southern districts and provides courses of instruction in metal-working and wood-working trades extending over five years and also a course in electric wiring extending over two years.

154. *Admissions and withdrawals.*—During the year about 130 applicants sought admission to the school but for want of accommodation only 45 were admitted by the Selection Committee. The number of withdrawals during the year was 36 including 34 that passed out in July last. Two candidates enrolled themselves in the war technician training class and eleven in the Indian Army Ordnance Corps direct.

155. *Examinations.*—The annual examinations of the school were conducted by the Superintendent in the absence of one of the members of the Board of Examiners, subject to the approval of the Inspector of Industrial Schools. Of the 24 candidates who appeared for the final examinations all were declared successful—8 in general mechanics, 12 in electric wiring and 4 in cabinet-making. All have secured suitable employment some in the Kodaikanal Road improvement works and others in the Electricity Department (Construction).

156. *Hostel.*—The hostel continued to function satisfactorily.

157. *General.*—The school participated in the All-India Swadeshi and Industrial Exhibition held at Madura when a certificate of gold medal was awarded. The school day was celebrated under the presidency of Sir P. T. Rajan.

158. *Financial position.*—The receipt and expenditure of the school for the year were Rs. 25,821 and Rs. 38,349 respectively, as against Rs. 26,541 and Rs. 35,137 in the previous year. The net cost of maintaining the school including the electric wiring section during the year was Rs. 8,596 as against Rs. 17,900 fixed by the retrenchment committee. The average cost of training per pupil was Rs. 100-12-3.

159. *Other Government Industrial and Trade schools.*—The Government Industrial School at Calicut and Bellary and the Government Trades School, Mangalore, continued to function satisfactorily during the year. These schools provide instruction in the metal-working and wood-working trades. There are also classes in electric wiring and casting and light-metal work at the Calicut school. The strength of these schools at the end of the year was 85 at Calicut, 76 at Bellary and 35 at Mangalore. The annual and final examinations were conducted by the boards of examiners appointed by Government consisting of the Superintendent of the school and one professional gentleman of the locality not connected with the school. Eleven students satisfactorily completed the course at Calicut, six at Bellary and nine at Mangalore and these were awarded certificates. Most of the passed candidates have secured suitable employments in firms and institutions including the

85
76
35
196

war technical classes. The tenure of the Boards of Visitors for the schools expired during the year and their term were extended for a further period of three years, in respect of the schools at Bellary and Mangalore. Orders in respect of the Calicut school were not received till the end of the year. The hostel at Bellary continued to work satisfactorily. The receipts and expenditure of these schools for the year were—

School.			Receipts.	Expenditure.	Net cost.
			RS.	RS.	RS.
Calicut	..	..	22,592	31,683	9,091
Bellary	..	..	11,833	21,733	9,900
Mangalore	..	..	6,277	14,065	7,788

The net cost in maintaining these three schools is Rs. 26,779 as against Rs. 32,870 in the previous year.

160. *War Technician Training Classes in the Government Schools.*—The war technician training classes in the Government School of Technology, Madras, and the Government Industrial and Trades Schools at Madura, Bellary, Calicut and Mangalore were further expanded and at the close of the year the following were the strength at each school:—

Government School of Technology, Madras	..	87
Government Industrial School, Madura	..	181
Do. Calicut	..	116
Do. Bellary	..	48
Government Trades School, Mangalore	..	79
Total	..	511

In addition many of the aided industrial schools were added to the list of war technician training centres.

161. *Aided Industrial Schools.*—At the close of the year there were 79 recognized industrial schools, excluding those managed by Government direct. On the 31st March 1942 there were 8,014 pupils receiving instruction in these schools (including Government institutions) as against 8,392 in the previous year. Of these 149 were Europeans and Anglo-Indians, 2,199 Indian Christians, 796 Brahmans, 3,036 Non-Brahmans, 1,161 Depressed Classes, 29 Aboriginal and Hill-tribes, 66 Criminal tribes, 517 Muhammadans, 11 Buddhists, 2 Parsis, 1 Sikh, and 47 others. An amount of Rs. 97,920 was distributed as in the form of maintenance grant (including Rs. 2,220 capitation grant) representing an average of Rs. 21-15-0 per pupil per annum. A further grant of Rs. 10,238 was distributed as equipment grant and Rs. 6,848 as building grant to certain schools. The Teachers Training Section in cabinet-making attached to the St. Joseph's Industrial School, Tindivanam, South Arcot district, in Embroidery at the Seton School of

Embroidery and Needle work, Madras and in needle work and dress-making at the American Mission Industrial School for Women, Palmaner, Chittoor district, continued to function satisfactorily during the year.

LEATHER TRADES INSTITUTE, MADRAS.

162. *Staff.*—Sri K. Seshachalam Chowdhury continued as Leather Research Chemist and was also in charge of the Institute throughout the year. The post of the Tanning Expert was unfilled throughout the year under review.

163. *Leather goods manufacturing class.*—The second batch of students of the Leather Working Class with the 2 years course had finished their first year by the end of the year. The strength of the class during the year was 24. Of these 9 were from the city and the remaining 15 from the different districts in the Province. Details are furnished below:—

District.	Number.
Anantapur	1
Bellary	1
South Arcot	2
Madura	1
Nellore	1
Guntur	5
Kistna	1
West Godavari	1
East Godavari	1
Chittoor	1
Total	15

Of the Ceded districts there was no student from Kurnool district. The student sent by the Cuddapah District Board in 1940-41 had left the institute without finishing his course. The southern districts are badly represented. No student from the districts of Chingleput, Tanjore, Trichinopoly, Ramanad and Tinnevely had joined the institute. The Northern Circars are fairly represented. Of the West Coast districts there had been none from South Kanara, though there was one from Malabar in the last batch. Of the central districts none has come from Coimbatore. The attendance of the boys from the mufassal was very regular. The attendance of the boys from the city was not regular. Instruction was given to the boys during the period according to the syllabus laid down. During the period about 450 pairs of sandals, shoes, etc., were prepared. The receipts from the sale of leather goods manufactured amounted to Rs. 504-10-0.

164. *Old boys.*—Five are working as cobblers in war service, two in overseas and three in India. Three students are working the industry independently, two at Ellore, West Godavari district

and one in Cannanore, Malabar. Two are working in the Empire Leather Works in the city. One is working in Messrs. Addison & Co. One is making suit cases independently. One is working in Messrs. J. P. Hussam & Co.

165. *Exhibitions.*—The institute participated in the exhibition organized by the South Indian Athletic Association during December 1941 to January 1942. Different kinds of leathers, hides and skins tanned with the indigenous tanning materials, materials used in the manufacture of leathers were exhibited. The leather goods manufactured in the Leather Working Class were exhibited for sale. An amount of Rs. 116-14-0 was realized. Models of the several tools and appliances used in the tanning industry and samples of leather goods manufactured at the institute were sent to the District Museums at Salem and Guntur.

166. *Work for the Jail department.*—The Leather Research Chemist visited the Central Jail, Vellore in January 1942 for the selection of leathers for the use of the jail. He inspected and passed the supplies to the above jail from Madras Industrial Leather Company during the whole year.

167. *Share of the old boys of the institute in the war supplies.*—It is pleasing to state that the leather technicals in the two South Indian tanneries (Mr. N. Mohamed Mian Rowther's tannery in Trichinopoly and the Madras Industrial Leather Company, Madras) who were given contracts for the war supplies are old boys of the institute. The latter tannery has been supplying the full quantity of different leathers required for the Central Jail, Vellore. The proprietors of the tannery are old boys of the institute. Five old boys of the Leather Working Class are engaged in war work.

168. *Researches in leather.*—No research work could be carried out during the year, because the Leather Research Chemist was on long tours in connexion with various cottage industry demonstrations and because the post of the Tanning Expert was vacant throughout the year owing to the non-availability of a suitably qualified candidate.

169. *Peripatetic Tanning Party.*—Though the Peripatetic Tanning Demonstration Party was sanctioned for 1941-42 it could not function during the year owing to the delay in appointing the Tanning Expert under whose control it was proposed that the party should work. It has since been arranged to start the first demonstration at Lepakshi under the supervision of the Leather Research Chemist.

SCHOOL OF ARTS AND CRAFTS, MADRAS.

170. *Staff.*—Sri D. P. Roy Choudhury, M.B.E., continued to be the Principal of the School throughout the year.

171. *Strength and attendance.*—The number of students on the rolls on the 31st March 1942 was 261 as against 279 in the previous year. The average attendance was 228 as against 229 in the

previous year. Of the new admissions made, one student was from the Hyderabad State and another from Travancore State and they are undergoing training respectively in metal-work and Ceramic course.

172. *General.*—High standard of efficiency in the departments of Arts and Crafts was maintained. In order to promote the village pottery on a cottage industry basis Government sanctioned during the year a demonstration scheme which is carrying the work at Karigiri near Katpadi. For this purpose the Ceramic Assistant of the school was deputed to Chunar in the United Provinces to study glazed pottery as carried on by the potters there. Proposals are under consideration for the appointment of a Ceramic Expert for the Province and final orders have not been received from Government.

173. *Examinations.*—The results of the various Government technical examinations during the year are shown below :—

Year.	Number. appeared.	Number passed.	Per- centage.
1939-40	30	18	60
1940-41	11	7	64
1941-42	22	9	* 41

* Failures are only in the lower grade.

174. *Stipends and scholarships.*—The number of scholarships and stipends awarded to students in the school from various sources was 46 as shown below :—

(i) School stipends including six in the Ceramic section	21
(ii) Scheduled classes industrial scholarships	10
(iii) District Board scholarships	6
(iv) Victoria Technical Institute scholarships	4
(v) Dr. S. Rangachari scholarships	3
(vi) Sri Venkateswara scholarship	1
(vii) Bihar Government scholarship	1

175. *Finance.*—The expenditure for the year amounted to Rs. 52,780-8-7 and the net cost of running the school was Rs. 46,802-13-0.

176. *Annual exhibition.*—No exhibition was held during the year owing to war conditions.

177. *War efforts.*—A subsidiary scheme for A.R.P. has been organized and the scheme is in operation from 23rd January 1942. Two large sea scape paintings and a very large oil painting depicting war subjects were painted by the Principal for use in the Victory House.

178. *Research*.—A new method of getting gold effect on lacquer was adopted by the Principal, as the price of gold leaf has gone high and the method is to some extent successful.

179. *Advisory Board*.—The tenure of the Advisory Board for the school expired during the year and its term was extended by another two years. The Board met thrice during the year to discuss among other items, the disposal of bronzes, furniture and pictures in the school. The sub-committee continued to help the Principal in selecting candidates for admission and recommending suitable students for the award of school stipends. Mrs. Town, one of the members resigned during the period and her place was taken up by the Joint Director of Industries and Commerce.

PROGRAMME OF WORK FOR 1942-43.

180. I. *General*.—(a) Continuance of endeavours to exploit the mineral wealth of the Province.

(b) Development of cottage industries in the Ceded districts with the aid of the Special Officer appointed for the purpose.

(c) Conduct of demonstration of the manufacture of jaggery and sugar in the Ceded districts.

(d) Working out of schemes for the utilization of the Groundnut Fund.

(e) Experiments on the manufacture of handmade paper and demonstration of the relative processes in select centres for the benefit of villagers.

II. *War supplies*.—(1) Opening of factory sections in the Government Industrial and Trade Schools for the manufacture of helves, handles and cutlery required by the Supply Department, Government of India.

(2) Harnessing of small industrialists and village artisans for the manufacture of war supplies and promotion of cottage industries.

III. *Engineering*.—(1) Experiments with cement pipes for 10" x 8" borewells.

(2) Experiments with bamboo or other wooden pipes for lining borewells in place of cement pipes due to the difficulty in procuring supplies of cement owing to the international situation.

(3) Experiments in the workshop for evolving a machine for cashewnut roasting.

IV. *Industrial education*.—(1) Demonstration of paper manufacture and training of candidates.

(2) Training of candidates in the manufacture of glazed pottery.

(3) Training of candidates in pith hat manufacture.

(4) Expansion of War Technician Training Scheme in Government owned industrial schools.

V. *Textiles*.—Installation of a handprinting machine in the dyeing section.

VI. *Sericulture*.—(1) Expansion of mulberry acreage so as to produce enough cocoons for a filature of 1,000 basins to produce quality silk for the manufacture of parachute.

(2) Training of labourers for a filature of 500 basins to be installed early.

(3) Preparation and distribution of an adequate supply of disease free cross-breed layings and white layings to meet the entire demand.

(4) Opening of more cross-breed centres.

(5) Grant of departmental recognition and financial aid by way of bonus to the existing unaided grainages and purchase of microscopes, etc.

(6) Manufacture and supply of 537,400 ligature silkworm guts consisting of fine and medium varieties to the Medical Stores Depot, Madras, against their indents. It is anticipated that further indents for medium and fine varieties of guts will in course of time be received from the Medical Stores Depot. Conduct of further experiments for further improvements to be effected on the quality of guts.

(7) Conduct of further researches on disease of silkworms.

(8) Conduct of experiments on the refrigeration of cocoons and seeds.

(9) Conduct of experiments on the manurial aspects of mulberry cultivation.

(10) Introduction of Foot Reeling Machine.

(11) Conduct of experiments on budding, grafting and cross-pollination methods.

(12) Conduct of further research work in the utilization of waste product, viz., silkworm chrysalides and guts of short length in the preparation of French polish, oil-varnish and peptone.

181. *Receipts and expenditure*.—The following statement exhibits the receipts and expenditure of the department during the year 1941-42. Details are exhibited in Appendix I.

Item.	1940-41.	1941-42.	Decrease (—), Increase (+).
	RS.	RS.	RS.
Expenditure ..	14,22,888	15,95,631	+ 1,72,743
Receipts ..	7,00,392	8,71,238	+ 1,70,846
Net cost ..	7,22,496	7,24,393	1,897

182. *Expenditure*.—There has been a decrease in expenditure under the heads "Direction", "Leather Trades Institute", "School of Arts and Crafts", "Grants for Handloom Industry"

and "Grants for Woollen Industry" to the extent of Rs. 21,479 as compared with that of the previous year. On the other hand there has been an increase in expenditure under "District Engineering", "Industrial Scholarships", "Industrial Schools", "Government School of Technology", "Government Textile Institute", "Sericulture", "Kerala Soap Institute", "Industrial Engineering Workshops", "Miscellaneous Experiments", "Grants-in-aid to Industrial Schools", "Grants to Handspinning Movement", and "Expenditure in England on Stores" to the extent of Rs. 1,81,707. An expenditure of Rs. 1,25,751 was incurred under the head "Grants for the Handspinning Movement" against Rs. 1,14,382 in the previous year. There was an expenditure of Rs. 1,25,912 under the heads "Grants for the Handloom, Sericultural and Small Scale Cottage and Woollen Industries" as against Rs. 1,39,263 in the previous year. The sum of Rs. 1,25,912 was set off by a similar amount under Receipts. The decrease in expenditure under "Direction" was due to the fact that no expenditure was incurred during the year under "Purchase of Stores under the State-Aid to Industries Act" as in previous year. The decrease in expenditure under "Leather Trades Institute" was due to the non-filling of the post of Tanning Expert in the place of Sri Sivayya Choudhury who proceeded on military duty and to reduction of expenditure under "Materials", and under "School of Arts and Crafts" to the reduction of expenditure under Other Charges (Scholarships and stipends, Purchase of Materials, Wages and Other Charges). The decrease in expenditure under "Grants to Handloom Industry" was primarily due to the variations in the subsidy granted during the year to its affiliated primary societies which grant is governed by certain standards of work to be turned out by the societies from time to time. The decrease in expenditure under "Grants for Woollen Industry" was due to the sanction of lesser working capital to the Cumbly Weavers Societies and Ellore Pile Carpet Weavers Co-operative Society. The increase in the expenditure under "District Engineering" was mainly due to the purchase of a Bucyrus Armstrong Drill and also to the increased expenditure under Plant and Machinery and Freight and Cartage due to the rise in prices of materials and movements of departmental sets both by rail and road in the interest of departmental work. The increase in expenditure under "Industrial Schools" and "Government School of Technology" was due to the introduction of War Technician classes during the year. The increase in expenditure under "Sericulture" was mainly due to the manufacture and supply of silkworm ligature guts to the Medical Stores Depot. The increase in expenditure under "Kerala Soap Institute" and "Experiments on Oils and Fats at the Kerala Soap Institute" was due to the higher cost of raw materials and stores and to stocking larger quantity of stores to carry forward to next year in view of the rise in prices of materials. The increase in expenditure under "Industrial Engineering Workshops" was mainly due to the construction of a tiffin shed and to the increase

in the cost of stores and to the grant of dearness allowance to menials and workmen. The increase under "Miscellaneous Experiments" was largely due to the expenditure under "Fish Liver Oil" for which provision was made during the year 1940-41 only for five months and to expenditure under "Tanning Industry", "Development of Cottage Industries in Ceded districts", "Hand Paper Industry", "Investigations of Asbestos Deposits" and "Development of Pottery and Jaggery Manufacture in the Ceded districts", the increase under "Grants-in-Aid to Industrial Schools" was due to the disbursement of larger grants under "Maintenance", "Buildings" and "Equipment." The increase in expenditure under "Grants for the Handspinning Movement" resulted from the disbursement of Grant and Subsidy asked for by the All-India Spinners Association for purchase of implements required for their workshops. The increase in expenditure under "Charges in England—Stores" was due to the carry over by the High Commissioner of the Liabilities of 1940-41. The increase under other heads does not call for comment.

183. *Receipts*.—There was a substantial increase in the total receipts of the department during the year as compared with the previous year. The increase was mainly under "Pumping and Boring", "Industrial Schools", "Sericulture", "Kerala Soap Institute", "Industrial Engineering Workshop" and "Fish Liver Oil." The increase under "Pumping and Boring" was due to the greater employment of departmental sets and to the levy of fees for work done by the departmental sets in connexion with the Rural Water-supply operations whilst the increase under "Industrial Schools" was mainly due to the increased volume of orders received and executed by the Industrial Schools and to the training fees recovered from the Government of India. The increase under "Sericulture" was mainly attributable to the sale of silkworm ligature guts to the "Medical Stores Depot" and that under "Kerala Soap Institute" to increased sale of soaps. The increase under "Industrial Engineering Workshop" was due to the large amount of work done for Pumping and Boring Section. The increase under "Fish Liver Oil" was due to the marketing and sale of shark liver oil during the whole year. The increase or decrease under other heads hardly call for comment.

184. *Net cost of the department*.—The net cost of the department increased by Rs. 1,897 as compared with that of the previous year.

APPENDIX I.

* Includes adjustments made in March 1940-41 supplemental accounts.