TESTING AND SERVICE FESILITIES

YEAR	ACTIVITIES	ACHIEVEMENTS
1979-80	54 novel designs for fibre mats/ stencilled mats and other coir products in differenent colour shades were evolved. 201 design cards in selected design were prepared and issued to the industry. On the spot technical advice extended to 55 coir processing units. Evolved the details of dyestuff formulation for 25 selected shades of better fastness. Extended assistance in bulk bleaching of 125 MT coir yarn. 368 nos of rubberised coir samples were tested. Formulated a draft standard specification for moulded rubberised coir cushion. A coir rope specimen was tested for break load and issued the test report. A total of 179 tonnes of coir yarn was dyed in different shades for Hindustan Coir. 3 Shade matchings were taken for coir.	
1980-81	Discoloured yarn and sun burnt yarn were treated for improving the brightness and lightening the tint. Developed a two bath process for bleaching of Beach Yarn. Thirty one dyestuff samples were assessed for suitability in dyeing of coir shades with improved fastness to water and rubbing were developed on coir using acrylic dyes with 2% acetic acid as dye bath assistant. 40 dyestuff samples of different classes were tested for evaluating its suitability for dyeing of coir. A total quantiry of 172 tonnes of coir yarn was dyed in different shades for Hindustan Coir.	

YEAR	ACTIVITIES	ACHIEVEMENTS
1981-82	Experiments revealed that by increasing the number of batches from 10 to 15 per tub, the quantity of caustic soda required for softening 1 kg of coir fibre can be reduced to 800 g. from 850 g. Dispensed the two bath process in bleaching of Beach yarn by treatment of the yarn in a solution containing 10 ml/l of Hydrogen peroxide (50%), 5g/l of soda ash and 5 g/l of sodium silicate at 80 - 95^0c for 1 ½ hrs. and continue the bleaching in the cold for overnight. A total of 128 shades were taken out on coir yarn by standard process for preparation of a shade card. On the spot technical guidance was imparted to 40 coir units. Extended assistance in bulk dyeing of 20 different pastel shades. 22 shades were matched and receipe furnished to the parties. 6 units were assisted in setting up facilities for bulk bleaching. Extended supervision in processing of 2000 tonnes of coir. 170 tonnes of coir was dyed in different shades for the Hindustan Coir. 102 samples of rubberised coir were tested. Samples of coir fibre, coir yarn and ropes were tested for physical characteristics. Organised training in ratt spinning of coir yarn and manufacture of Salem type coir rope.	1. Developed a single bath bleaching for Beach yarn. 2. A total of 128 shades were taken on coir as a prelude to prepare a Shade Card. 3. Batch process of caustic soda treatment was introduced.
1982-83	Evolved a method to improve the colour of deeply tinted vycome yarn by treatment with oxalic acid / sulphuric acid at a strength of 3 g/l(m:l ratio 1:12) followed by washing the treated yarn free of acid. The receipe for 62 shades was worked out taking the total shades for the shade card to 190. 20 samples of dyestuffs were tested to confirm the suitability of dyes for application to coir. 2 shades were matched. Organised a display of design cards for coir products in novel designs. Samples were prepared and sent to German Carpet Research Institute for evaluation of the important characteristics of coir.	1. Taken out 62 shades on coir for preparation of a Shade Card.

YEAR	ACTIVITIES	ACHIEVEMENTS
	A total of 3 societies involving 412 ratts and 1236 workers were given training in improving the quality of coir yarn in regions producing vycome coir yarn under intensified field extension programme. 50 units were given on the spot technical advice in bleaching, dyeing and shade matching. 152 tonnes of coir yarn was dyed in different shades to meet the partial dyed yarn requirements of Hindustan Coir. 184 Samples of rubberized coir and 4 coils of ropes were tested and issued test report.	
1983-84	400 kg. carnatic/Anjengo yarn was softened with caustic soda by cold process and one tonne of yarn was dyed in different shades for weaving carpets/mattings in new design patterns Experimental dyeing evolved receipe for 78 shades. Completed work on preparation 80 sets of shade cards. Boilers, overhead hoist and dryers were installed.  Modern Dye House Field extension programmes were organised in societies in Perumpalam, Keerikakd and Kadinamkulam villages in Kerala (manufacturing vycome, Aratory and Anjengo type of yarn) for the intensive effort in improving the quality of coir yarn covering to produce good quality coir fibre, condition of the ratt for spinning, improvement in proficiency of the spinners and training at the field level for upgradation of the skill of spinners. The field extension programmes improved the quality of the coir yarn produced in these societies substantially.	1.Developed a Shade Card of 190 shades and completed work of 80 sets of Shade Cards. 2.Introduced Field Extension Training Programmes and improved the quality of yarn.

YEAR	ACTIVITIES	ACHIEVEMENTS
	 A four-spindle ratt designed and fabricated by CCRI was put to field test in the Co-Operative Society at Perumpalam. The standardised ratt gave satisfactory spinning performance with receptivity of the workers. 4 Spindle Ratt The treadle ratt was put to field test in spinning Quilandy/Beypore type coir yarn at Palayad Coir Vyavasaya Co-Operative Sociery Ltd No. 258 and realised an output of 8 kg. Quilandy type coir yarn with a runnage of 130/kg. for 8 hours. On the spot technical guidance was given to 48 coir manufacturing units in bleaching, dyeing and shade matching. 400 kg hessian webbing was dyed in red shade for stitching edges of mattings and rugs. 120 tonnes of coir yarn was dyed in different shades to meet part of dyed yarn requirements of Hindustan Coir. 210 rubberised coir samples were tested. A short term training programme in product development at Dansk Textile Institute, Tastrup, Denmark, Dyeing and Shade matching at Tropical Products Research & Development Institute, London and Testing and Quality Control at T.F.I Aachen, West Germany was organised through the India Trade Centre, Brussels in collaboration with the European Economic Community. An R & D project on the treatment and disposal of spent liquors from the bleaching / dyeing operations meeting with the norms of pollution control was undertaken in collaboration with the National Environmental Engineering Research Institute, Cochin	

YEAR	ACTIVITIES	ACHIEVEMENTS
1985-86	3.5 tonnes of coir yarn was dyed in different shade. 10 shade matchings were taken. A new shade card depicting 190 shade illusrtrations in standard connotations on coir yarn, setting out the dyeing procedures was published for issue to coir units. Copies of 57 designs were issued to coir units for diversification of the range of designs for coir products. 42 coir product manufacturing units were assisted in bleaching, dyeing of coir fibre/yarn in bulk lots.7 shade matchings were taken. 9 coir units were assisted for rectification of faults in stenciling mats. 4 dyestufts were tested for tinctorial values. 123 tonnes of coir yarn was dyed in different shades to meet the part of dyed yarn requirements of Hindustan Coir. Coir co-operative societies were assisted in taking bulk dyeing / bleaching in SS dye vats and 12 tonnes of coir fibre/yarn were processed in each of the societies under the guidance of extension service. Assistance was extended in organising a Workshop on Coir Research at Cochin in September 1985. Presented a paper titled “Effect of prior crushing on retting of Coconut husks” at the workshop on Coir Research.	1. Published a Coir Shade Card of 190 Shades for issue.

SHADECARD ON DIRECT COIR DYES

YEAR	ACTIVITIES	ACHIEVEMENTS
1986-87	Sodium sulphite/EDTA were used as additives to the dye bath at a concentration of 1g/litre for acid/basic dyes. It was observed that there was marked improvement in penetration of the dyestuff in to the fibre/yarn with blue shade only on use of sodium sulphite whereas for EDTA improved brightness and penetration achieved for yellow and blue shades. 19 shades were matched and receipes for dyeing furnished to parties. 34 dyestuff samples were tested for suitability for application to coir and assessed tinctorial value. 2 MT of coir yarn was dyed in different shades for evolving new designs in jacquard patterns. 176 tonnes of coir yarn was dyed in different shades to meet the part dyed yarn requirement of Hindustan Coir. 304 samples of rubberised coir were tested. Field extension programme for improving the quality of Aratory, Vycome, and Anjengo coir yarn was conducted in Keerikkad, Perumpalam and Kadinamkulam model coir villages. 23 major coir-processing units were assisted in bleaching, dyeing and shade matching. On the spot technical supervision was extended in processing 40 tonnes of coir yarn. Presented a paper on “Prospects of Development of Coir Industry in Lakshadweep at the “Futurology Workshop on Science & Technology Inputs for Industrial Development of the Union Territory”, conducted at Regional Research Laboratary, Trivandrum. Presented a paper on the “Efforts of Coir Board for Quality - Maintenance / Improvement” at the Workshop on Quality Maintenance and Inprovements in November 1986 8 special shades were matched. 5 coir units were assisted for bleaching coir yarn in the cold. One unit was assisted in stencilling pile carpets	1. Recipes for fire retardancy of coir needled felt, mats and mattings were developed 2. Field Extension Training Programmes were conducted for improving the quality of different types of yarn.

YEAR	ACTIVITIES	ACHIEVEMENTS
1987-88	1.5 MT. coir yarn was bleached with hydrogen peroxide for weaving coir products in novel designs. The required dyestuffs suitable to the colour schemes of designs evolved under ITC/SIDA Trade Promotion programme were worked out. 127 shade matchings were taken and receipes evolved for bulk processing issued to coir units. 8 Dyestuff samples were tested for suitability for application to coir and evaluation of tinctorial value. A bleaching receipe containing 7.5 g/l of hydrosol, 0.125 g/l of oxyglow and 5 g/l of hydrogen peroxide was evoloved for bleaching coir yarn to creamy white at room temperature for 19 hrs. thereby reducing the cost of peroxide bleaching by 20%. A training programme was started in imparting training in spinning on treadle ratt/traditional ratt to the worker members of the 44 coir co-operative societies in Cannanore, Kozhikode and Ponnani Coir Project areas. Beach type yarn spun from decorticated brown coir fibre on the treadle ratt was suitable for manufacture of Beach Rod Mats of superior quality. Technical assistance in bleaching, dyeing and shade matching was extended to 28 major coir processing units.Two units were assisted for bleaching coir yarn in the cold. 32 MT of coir yarn was processed in different units under the technical supervision of the extension staff. 5 dyestuff samples were tested to assess the tinctorial value.178 tonnes of coir yarn was dyed in different shades to meet the dyed yarn requirements of Hindustan Coir. 477 samples of rubberised coir were tested. The field experiments in utilisation of coir pith in agricultural farms through University of Agricultural Sciences, Bangalore revealed that application of coir pith suppresses the weed growth and conserves moisture in coconut and cashew plantations. The performance of rubberized coir needled felt as carpet underlay and Janatha mattresses were reported as satisfactory by the consumers. Presented a paper “Coir Industry – Product Diversification for Non-conventional Uses” at the Workshop on use of Coir Netting for Civil Engineering Practice.	1. A receipe was developed to reduce the consumption of hydrogen peroxide in bleaching of coir.

YEAR	ACTIVITIES	ACHIEVEMENTS
1988-89	Shade cards depicting shade illustrations and detailing the recipes of dyeing the 38 shades of standard connotations on brown coir yarn were evolved. Treatment of coir yarn dyed with basic dyes in a bath contaning 1g/l of formaldehyde (40%) at 60^0c for 1 hour imparted perceptible improvement in the fastness of red, brown, violet and olive green shades of coir yarn. 90 samples of dyestuffs received for confirming the suitability for application to coir and evaluation of the tinctorial value were tested. Service facility for dyeing coir yarn in specific shades to meet the demand of export house was carried out. Field extrension training programmes for 160 coir artisan from 30 coir co-operative societies of Kozhikkode Coir Project area was conducted for spinning 2 ply coir yarn on the traditional ratt. Field experiments were conducted for spinning Quilandy type of coir yarn on the treadle ratt in five coir co-operative societies. 6 shades were matched.	1. A Shade Card on brown coir yarn was developed. 2.Silicone compositions imparted best fire retardant property to the rubberised coir. 3.Field Extension Tra-ining Programmes were conducted in the Kozhikode Project Area for spinning two ply coir yarn on traditional ratt.
1989-90	90 spinners selected from 17 coir co-operative societies of Kozhikode Coir Project area were trained for spinning coir yarn of Anjengo and Mangadan type on the traditional ratt. 426 women workers of coir co-operative in Thiruvananthapuram Project Area were imparted training in spinning Anjengo yarn on the traditional ratt. 36 artisans of Panathura village in Thiruvananthapuram District were imparted training in spinning coir yarn, manufacture of coir mats, mattings, carpets and handicraft items. 30 SC/ST women workers of Dr. Ambedkar Coir Rope Mats & Mattings Industrial Co-operative Society, Cuddalore (T.N) and 10 women workers of Composite Coir Co-operative Society, Vangurla (Maharashtra) were given training in spinning of coir yarn from brown coir fibre and manufacture of coir products.	1. Technical assistance extended to the Director of Technical Education, U.T of Lakashadweep for conducting practical / theory classes in coir craft in high schools.

YEAR	ACTIVITIES	ACHIEVEMENTS
	Technical assistance was extended to the Director of Technical Education, U.T of Lakshadweep for conducting practicals/ theory classes in coir craft in High schools and procurement of equipments and graded lessons for the theory classes. 9 shades were matched and recipe furnished to the parties. 69 dyestuff samples were assessed for tinctorial value and suitability for application to coir. Dye house was fully operationalised and 300 MT of coir yarn was dyed to meet the full requirement of dyed yarn for Hindustan Coir.  SHADE CARD ON BROWN COIR YARN A shade card book containing 40 shade illustrations was issued to RCT & DC. A total of 262 samples of rubberised coir as per the specification of BIS and 10 samples of coir ropes for break load and elongation at break were tested. Participated in the Exhibition "Science in Every Day Life" held at Ottapalam from 1st to 14 th Sept 1989 and demonstrated the spinning of coir yarn on improved spinning devices.	
1990-91	As part of achieving colour fastness to coir yarn, a research project in collaboration with Department of Chemical Technology, University of Bombay and Dr. V. A.Shenoy, Professor of Textile Chemistry conducted an appraisal of the problems relating to bleaching and dyeing and developments of techniques to colour fastness for coir fibre and coir yarns and submitted a research project at an outlay of Rs.2.09 lakhs. 90 different shades were matched and receipes furnished to the parties. 40 dye stuff samples were examined for suitability to dyeing of coir 343 kg. coir fibre/yarn were bleached by cold and hot process based on hydrogen peroxide. Mechanical drier was installed in the Dye House and ETP for treating the effluents from the dye house was completed. 325 MT of coir yarn were dyed in different shades for meeting the requirements of Hindustan Coir and other coir processing units. Tie and dye method of dyeing of yarn was done for the manufacture of pile carpets of Jaspe design.	1. Installed an Effluent Treatment Plant for treating the effluents from the Dye house. 2.Rubberised coir testing laboratory was set up at CICT Bangalore.