



## A STUDY ON EXPORT PERFORMANCE OF COIR AND COIR PRODUCTS IN INDIA (2002-03 TO 2011-12)

**Dr. P. Krishnathulasimani\*** **Mrs. Nirrmala Sathish\*\***

*\*Head and Associate Professor, Department of Economics, NGM College, Pollachi, India.*

*\*\*Assistant Professor, Department of Economics, NGM College, Pollachi, India.*

### **Abstract**

India is one of the leading producers and exporters of coir yarn, coir mats, mattings, curled coir, rope, rubberized products, geo-textile, coir pith and rugs to world market. India accounts over for 50 per cent of the world trade in coir and India exported 25 to 30 per cent of products to foreign countries. The study analysed composition and direction of export of coir products by using various statistical tools like co-efficient of variation, annual growth rate, compound growth rate, etc. The findings of the study are: except the year 2007-08, all the years during the reference period export of coir and coir products registered a positive trend, export of coir and coir products in terms of value has been observed to be relatively consistent (CV was 34.09 per cent) as compared to volume of exports (CV was 52.52 per cent) and there was highly significant correlation between volume and value of export of coir and coir products in India; the export of coir fibre and curled coir has increased with the compound growth rate of 88.29 and 82.65 per cent respectively; the compound growth is negative for the export segments like coir yarn, handloom mattings, coir rugs and carpets and power loom mats; the co-efficient of variation was observed that among the major coir exported items, coir yarn are more consistent (CV was 16.14 per cent) whereas curled coir has less stable (CV was 175.21 per cent) during the reference period; USA continues to be the largest market for Indian coir and coir products followed by UK, Australia, France, Netherland, Italy, Germany and Spain whereas Belgium and Canada has shown as negative trend; and the percentage share of export in the total production of coir and coir products has shown an upward trend throughout the reference period from 10.73 per cent in 2002- 03 to 32.28 per cent in 2011-2012. The study suggested the ways and means to improve the coir sector with sustainable growth in India.

**Key Words: Coir products, Export, Geo-textile, Sustainable Growth, etc.**

### **INTRODUCTION**

India is one of the top producers and exporters of coir in international market. The Indian coir products are in great demand in the international market because of their special attributes like fitness, price, craftsmanship, quality, attractiveness and eco-friendly, biodegradable renewable natural resources, non-pollutant, etc., and usage of the product is up to the expected level when compared to plastic and other environment pollutant item. India is one of the leading producers and exporters of coir yarn, coir mats, mattings, curled coir, rope, rubberized products, geo-textile, coir pith and rugs to world market. There is no evidence regarding the export of coir in large scale from India during the 18<sup>th</sup> century. But, in the beginning of the 19<sup>th</sup> century, there was a global increase in the production and export of natural fibre. India accounts over for 50 per cent of the world trade in coir and India exported 25 to 30 per cent of products to foreign countries. With this background the present research article analysed the export performance of coir industry in India.

### **STATEMENT OF THE PROBLEM**

India is the largest coir producer in the world accounting for more than 80 per cent of the world production of coir fibre and which are exported to 90 countries across the world. In respect of international trade, India and Sri Lanka are the largest exporting countries of coir fibre and related products and the USA, the European Countries, Japan and China are the major importing countries. However, Indian coir products face stiff competition in markets aboard especially from products exported from other coir producing countries and other natural and synthetic products like jute, sisal, abacca, rubber, PVC, etc. The market acceptability and wide spread commercialization of new varieties like geo-textiles, coir ply, etc., are yet to be achieved. Presently the coir sector heavily depends on traditional products. Most of the coir units are small hence they are not able to produce more and also to export. Till the coir products are marketed in the traditional method, innovation is almost absent. The studies conducted earlier by experts and researchers like Gopalan Nair (1987), Kumara Swami Pillai M. (1995), Dhanya G. (1999), Mary Philip et.al (1999), Leela Menon (2007), Shanmuga Priya B. et.al (2011), Dr. Sivanesan R. (2013), etc., concentrated mainly on coir-co-operatives, production of coir, problems of women workers, problems of coir, problems of women workers, problem of coir industry etc. Therefore it is need to review the present problems of coir products exports and find out suitable strategies for that which will helps to promote production and export performance of coir sector in future.



### OBJECTIVES OF THE STUDY

1. To analyse the export performance of coir products in India.
2. To know the composition of coir product exports in India.
3. To examine the direction of export of coir products in India.
4. To give relevant suggestions.

### METHODOLOGY

The study analysed composition and direction of export of coir products and suggests the ways and means to improve the coir sector with sustainable growth. The study is mainly based on secondary data which are collected from Annual Reports of Coir Board, Kerala, Central Coir Research Institute, Alappuzha, Kerala, various books, journals and websites relevant to the coir industry. In the study export performance of the industry has been analysed by using various statistical tools like coefficient of variation, annual growth rate, compound growth rate, etc.

### RECENT TRENDS IN COIR AND COIR PRODUCTS EXPORT

Table – 1 reveals that the growth performance of export of coir and coir products in India for the period 2002-03 to 2011-12. Except the year 2007-08, all the years during the reference period registered a positive trend. It has risen from 84183 tonnes valued at Rs. 352.70 crore in 2002-03 to 410853 tonnes valued at Rs. 1052.62 crore in 2011-12. Almost all the items except curled coir, coir matting, coir rugs and rope have shown a positive trend. The demand for geo-textiles, coir fibre, handloom mats, tufted mats, coir pith, rubberized coir, etc, is on the increase. Though the coir products export increased in terms of value and volume in 2011-12, it has achieved only 73.48 per cent of the target in terms of US \$ fixed by Ministry of Textiles, Government of India. The decline in the export of high value added items such as coir rugs and carpets is one of the major reasons for non-achievement of the target during the year 2007-08. It is significant note that the export of coir products during the subsequent years 2008-09 and 2009-10, surpassed the target of Rs.639.97 crore and Rs.804.05 crore respectively fixed for coir sector.

**Table – 1, Growth Performance of Export of Coir and Coir Products in India during the Years 2002-03 to 2011-12  
Quantity in Metric Tonnes Value in Rs. Crores**

Year	Export		Annual Growth Rate	
	Quantity	Value	Quantity	Value
2002-03	84183	352.70	-	-
2003-04	102253	407.49	21.47	15.53
2004-05	122927	473.40	20.22	16.17
2005-06	136027	508.45	10.66	7.40
2006-07	168755	605.17	24.06	19.02
2007-08	187567	592.88	11.15	-2.03
2008-09	199925	639.97	6.59	7.94
2009-10	294508	804.05	47.31	25.64
2010-11	321016	807.07	9.00	0.38
2011-12	410853	1052.62	27.99	30.42
MEAN	202801	624.38	19.83	13.39
CV	52.52	34.09	64.15	81.70
TCGR	18.43	11.49	-	-
Foot Note:				
CV:- Coefficient of Variation; CGR:- Compound Growth Rate;				

Source: Compiled from the Information Given in the Annual Reports of Coir Board (2002-03 to 2011-12), Ministry of MSME, Government of India, Kochi.

In the year 2011-12, the export of coir and coir products increased to 410853 metric tonnes and in terms of value it was Rs. 1052.62 crore and the compound growth rate for the export of coir and coir products was 18.43 per cent for quantity and for value it was 11.49 per cent. The mean value for the quantity of export was 202801 and for the export of coir products in terms of value the mean value was 624.38 while coir has achieved its target, overseas sales of other products have failed to achieve their set targets. While machine made PVC tufted mats and coir raw materials have found an increase in demand, the traditional handloom products of carpets, coir mats, and also rubberised coir are witnessing a fall in the market share. Export



of coir and coir products in terms of value observed to be relatively consistent (CV was 34.09 per cent) as compared to volume of exports (CV was 52.52 per cent). There was highly significant correlation between volume and value of export of coir and coir products in India.

**Table – 2,Item-wise India’s Export of Coir and Coir Products (2002-03 to 2011-12)  
Value (in Rs. Lakh)**

Year	Handloom Mats	Tufted Mat	Coir Pith	Coir Yarn	Coir Rope	Hand loom Mattings	Geo-textile	Coir Fibre	Rubberized Coir	Coir Rugs and Carpets	Curled Coir	Power Loom Mat	Total(including others)
2002-03	20,711.79	3,434.71	1,493.01	2,996.76	102.05	3,191.04	985.23	103.81	403.43	932.42	80.05	585.52	35270
2003-04	22,133.69	6,359.52	1,975.92	3,498.71	111.46	2,838.66	1,184.74	142.44	334.67	1,071.36	14.02	672.13	40749
2004-05	25,129.27	9,499.05	3,042.41	3,358.16	116.91	2,334.04	1,049.76	186.03	340.57	1,002.64	11.97	931.16	47340
2005-06	26,698.73	11,605.96	3,872.60	3,019.00	70.41	1,913.38	1,140.56	196.05	377.05	730.38	0.00	1,027.10	50845
2006-07	27,370.67	18,213.02	5,382.07	3,161.57	68.87	2,534.63	1,335.22	1,075.80	697.86	328.55	208.34	168.84	60517
2007-08	24,299.85	19,910.98	6,384.77	2,666.90	139.99	1,879.33	1,444.65	1,224.14	825.19	134.40	152.06	52.69	59288
2008-09	23,637.63	22,598.15	8,462.30	1,925.92	164.60	1,716.58	1,691.06	1,390.89	1,174.77	67.63	223.86	40.06	63997
2009-10	25,428.01	25,351.24	12,347.06	2,461.21	165.92	1,425.28	2,023.77	9,742.03	713.39	45.38	668.33	2.03	80405
2010-11	21,525.08	23,968.41	14,829.02	2,685.34	86.72	1,244.72	1,823.05	1,2148.06	476.89	826.22	1,056.52	0.01	80707
2011-12	1,05,193.79	27,745.26	22,150.70	3,140.70	340.99	1,582.83	2,433.12	2,0324.00	549.80	185.55	3,171.03	24.56	105262
Percentage increase in 2011-2012 over 2010-2011	3.89	1.58	4.94	1.70	2.93	2.72	3.35	6.73	1.53	-7.75	2.00	2.46	30.425
MEAN	32212.85	16868.63	7993.99	2891.43	136.80	2066.05	1511.12	4653.33	586.37	532.45	558.62	350.41	62438
CV	79.89	50.67	82.95	16.14	58.23	30.84	31.28	150.89	45.46	78.46	175.21	117.37	34.09
CGR	8.86	23.69	33.69	-2.69	8.93	-8.79	9.98	88.29	7.90	-21.46	82.65	-59.19	11.49

Foot Note: CV:- Coefficient of Variation; CGR:- Compound Growth Rate

The export of curled coir has increased from Rs. 80.05 lakh in 2002- 03 to Rs.3171.03 lakh in 2011-12 with the compound growth rate of 82.65 per cent and its mean value is 558.62 tonnes. The compound growth is negative for the segments like coir yarn (-2.69 per cent), handloom mattings (-8.79 per cent), coir rugs and carpets (-21.46 per cent) and power loom mats (-59.19 per cent). During the last year of the reference period coir fibre (6.73 per cent), coir pith 4.94 (per cent), handloom mats (3.89 per cent ), coir rope (2.93 per cent ), power loom mats (2.46 per cent), curled coir (2.00 per cent), coir yarn (1.70 per cent), tufted mats (1.58 per cent) and rubberized coir (1.53 per cent) registering a significant growth. On the other hand, coir rugs and carpets shows declining trend (-7.75 per cent) during the same period. The co-efficient of variation was observed that among the major coir exported items, coir yarn are more consistent (CV was 16.14 per cent) whereas curled coir has less stable (CV was 175.21 per cent) during the reference period.



**Table – 3, Item-wise India's Export of Coir and Coir Products (2002-03 to 2011-12)**  
**Quantity (in tonnes)**

Year	Handloom Mats	Tufted Mat	Coir Pith	Coir Yarn	Coir Rope	Hand Loom Mattings	Geo-textile	Coir Fibre	Rubberised Coir	Coir Rugs and Carpets	Curled Coir	Power Loom Mat	Total(including others)
2002-03	33,058.75	6,429.03	21,064.20	114,482.47	332.85	47.72	21.40	10.36	535.22	1,327.08	492.37	954.85	84183
2003-04	36,303.99	11,772.20	29,179.35	12,364.43	490.21	45.45	25.99	11.20	461.78	1,694.56	76.54	1,026.28	102253
2004-05	40,128.00	16,503.00	43,420.53	10,988.59	502.40	3,519.00	2,324.00	1,351.00	476.00	1,728.00	69.00	143.32	122927
2005-06	42,516.42	19,671.49	53,444.48	9,852.52	123.03	2,915.91	2,512.32	1,552.98	536.50	1,242.70	0.00	160.90	136027
2006-07	42,986.07	29,017.02	67,152.99	9,691.17	119.31	3,642.27	3,044.51	9,356.64	947.31	488.31	1,804.03	246.21	168755
2007-08	40,917.35	33,950.35	83,613.24	8,407.09	57.02	3,013.71	3,364.72	11,101.64	1,120.35	178.14	1,279.99	75.06	187567
2008-09	35,553.43	33,689.27	96,996.32	5,335.09	50.50	2,368.45	3,251.25	19,443.54	1,222.59	63.83	1,438.38	54.21	199925
2009-10	36,297.71	36,991.21	131,916.67	6,108.35	55.04	1,832.24	3,754.44	73,074.93	629.78	46.17	3,365.70	2.84	294508
2010-11	29,409.00	33,349.02	157,854.93	5,021.96	211.56	1,406.49	3,266.63	83,393.01	383.39	1,146.81	5,527.08	0.00	321016
2011-12	27,656.17	33,021.17	2,06,424.57	5,562.87	792.82	1,473.78	3,680.91	1,19,684.5	415.06	191.00	11,855.97	36.14	410853
Percentage increase in 2011-2012 over 2010-2011	-5.96	-0.98	30.77	10.77	274.74	4.78	12.68	43.51	8.26	-83.34	114.50	36.14	27.99
MEAN	34482.69	25439.38	89106.73	18781.45	273.47	2026.50	2524.62	31897.98	672.80	810.66	2590.91	269.98	202801
CV	28.92	42.82	67.41	179.56	91.79	64.32	55.16	136.40	45.70	84.46	142.41	143.61	52.52
CGR	-7.10	18.37	27.37	-20.78	-7.32	36.07	65.81	187.60	0.27	-25.33	82.76	-46.13	18.43

Foot Note: CV:- Coefficient of Variance; CGR:- Compound Growth Rate

Source: Compiled from the Information Given in the Annual Reports of Coir Board (1998-99 to 2010-11), Ministry of MSME, Government of India, Kochi.

India's item-wise export of coir and coir products in terms of quantity is presented in the table 3. During the last year of the reference period, there was an increase in the export of coir pith (30.77 per cent), coir yarn (10.77 per cent), coir rope (274.74 per cent), handloom mattings (4.78 per cent), goe-textile (12.68 per cent), coir fibre (43.51 per cent), rubberised coir (8.26 per cent), curled coir (114.50 per cent) and power loom mats (36.14 per cent). The items like handloom mats (-5.96 per cent), tufted mat (-0.98 per cent) and coir rugs and carpet (-83.34 per cent) showed a negative trend between the years 2010-11 and 2011-12. It is also revealed that the compound growth rate is highest for coir fibre (187.60 per cent) and the mean value is also maximum i.e., 31897.98 as compared to all other items during the reference period. Co-efficient of variation reveals that export of handloom mats are more stable (CV was 28.92 per cent) than other items. On the other hand, the coir yarn exports are more inconsistent (CV was 179.56) as compared to all other items.



**Table – 4, India’s Export of Coir and Coir Products to Major Countries during the Years 2006-07 to 2011-12(Rs.in Crore)**

Source: Compiled from the Information Given in the Annual Reports of Coir Board (2006-07 to 2011-12), Ministry of

Countries	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Percentage increase in 2011-12 over 2010-11
USA	221.98	200.05	196.06	240.89	205.47	231.42	12.63
UK	55.39	49.05	52.35	58.16	55.33	81.78	47.80
Germany	45.92	42.00	52.87	44.51	37.31	44.05	19.27
Netherland	41.95	49.54	48.14	66.27	66.95	82.02	22.78
Italy	26.29	28.16	26.92	38.56	32.91	40.37	22.67
Spain	25.39	24.23	19.85	29.35	29.44	34.06	15.69
Canada	19.66	20.49	20.47	18.43	18.12	17.88	-1.32
France	17.15	19.69	18.99	20.48	24.21	30.20	24.74
Australia	15.01	17.28	19.08	23.28	20.81	30.45	46.32
Belgium	10.04	9.78	15.14	14.69	20.99	14.68	-30.06
Total (incl. others)	605.17	592.88	639.97	804.05	807.07	1052.62	30.43

MSME, Kochi.

Coir industry in India has a strong export orientation with the sale of traditionally made yarn, mats, matting rugs and carpets. India is the major exporter of coir and coir products to other countries. In India coir and coir products are exported to 111 countries all over the world. The USA continued to be the largest importer of coir products from India. Other major markets for Indian coir and coir products are the United Kingdom, France, Germany, Italy, Belgium, Denmark, Portugal and Greece. The other countries which import small quantities of Indian coir products are Australia, Canada, Sweden, Japan, Israel, United Arab Emirates and Saudi Arabia.

India’s export of coir and coir products to major markets are shown in table 4. The table reveals that the USA continued to be the largest market for Indian coir and coir products in terms of rupee value. An export to the USA has increased from Rs.205.47 crore in 2010-11 to Rs.231.42 crore in 2011-2012. Other major countries also show a rising trend during the last year over the previous year in terms of percentage such as: the UK (47.80 per cent), Australia (46.32 per cent), France (24.74 per cent), Netherland (22.78 per cent), Italy (22.67 per cent), Germany (19.27per cent) and Spain (15.69) where as Belgium (-30.06 per cent) and Canada (-1.32 per cent) has shown as negative trend.

**TABLE – 5,Percentage Share of Export of Coir and Coir Products inTotal Production during the Years 2002-03 to 2011-12**

Year	Percentage Share
2002-03	10.73
2003-04	12.70
2004-05	14.08
2005-06	14.32
2006-07	16.01
2007-08	17.52
2008-09	17.69
2009-10	24.86
2010-11	26.25
2011-12	32.28

Source: Compiled from the Information Given in the Annual Reports of Coir Board (2002-03 to 2011-12), Ministry of MSME, Government of India, Kochi.



The table 5 has examined the percentage share of export of coir and coir products in total production. The percentage share of export in the total production of coir and coir products has shown an upward trend throughout the reference period from 10.73 per cent in 2002-03 to 32.28 per cent in 2011-12.

#### **FINDINGS OF THE STUDY**

1. Except the year 2007-08, all the years during the reference period export of coir and coir products registered a positive trend.
2. Export of coir and coir products in terms of value has been observed to be relatively consistent (CV was 34.09 per cent) as compared to volume of exports (CV was 52.52 per cent). There was highly significant correlation between volume and value of export of coir and coir products in India.
3. The overall India's coir export has increased at the compound growth rate of 18.43 per cent in terms of quantity and 11.49 per cent in terms of values.
4. The export of coir fibre and curled coir has increased with the compound growth rate of 88.29 and 82.65 per cent respectively.
5. The compound growth is negative for the export segments like coir yarn (-2.69 per cent), handloom mattings (-8.79 per cent), coir rugs and carpets (-21.46 per cent) and power loom mats (-59.19 per cent).
6. The co-efficient of variation was observed that among the major coir exported items, coir yarn are more consistent (CV was 16.14 per cent) whereas curled coir has less stable (CV was 175.21 per cent) during the reference period.
7. Co-efficient of variation reveals that export of handloom mats are more stable (CV was 28.92 per cent) than other items. On the other hand, the coir yarn exports are most inconsistent (CV was 179.56) as compared to all other items.
8. USA continues to be the largest market for Indian coir and coir products followed by UK, Australia, France, Netherland, Italy, Germany and Spain whereas Belgium and Canada has shown as negative trend.
9. The percentage share of export in the total production of coir and coir products has shown an upward trend throughout the reference period from 10.73 per cent in 2002- 03 to 32.28 per cent in 2011-2012.

#### **SUGGESTIONS**

1. Modernisation of production infrastructure by means of appropriate technology without displacement of labour.
2. Promotion of coir exports and new products through undertaking of market promotion measures abroad.
3. Introduction of incentives for higher exports.
4. Credit support for participation in international fairs.
5. Government /Coir Board supported trade fairs.
6. Expansion of domestic market through publicity and propaganda.
7. Development of skilled manpower through training.
8. Promotion of research and development activities like process improvement, product development and diversification, elimination of drudgery and pollution abatement, and
9. Extension of research and development findings through field demonstrations.

#### **CONCLUSION**

Coir industry is one of the traditional foreign exchange earners of the country and it occupies an important and unique place in world market with the infrastructural facilities available in the state and the strong support from the government. Recently, the coir industry has undergone an unprecedented expansion covering all aspects beyond its traditional purview. However export market for coir and coir products has not been fully tapped and promotional efforts are inadequate and the policy makers are required to gear up their effort in this area to help the industry to become globally competitive. Along with the intensification effort for expanding export market for coir goods, efforts should also be made to strengthen the domestic market for withstanding the stress and strain of a fluctuating export market.

#### **REFERENCES**

1. Bhaskaran Unnithan, K., (1970), "Coir Industry in India, with Special Reference to Marketing and Trade", Coir Board, Ministry of Micro, Small & Medium Enterprises (MSME), Government of India, Kochi.
2. Coir Board (2011), "Indian Coir – A Reference Book", Ministry of Micro, Small & Medium Enterprises (MSME), Government of India, Kochi.
3. Pylee D.M.V., (1995), "A Study on Coir Industry in India (Problems & Prospects)", Coir Board, Ministry of Micro, Small & Medium Enterprises (MSME), Kochi.



4. Unnithanan K.B., (1970), "Coir Industry in India-With Special Reference to Marketing and Trade", Coir Board, Ministry of Micro, Small & Medium Enterprises (MSME), Kochi.
5. Ajith Kumar P., (1995), "Marketing Coir and Coir Products", Souvenir, Department of Coir Development, Thiruvananthapuram, Kerala. pp: 43-49.
6. Ajjan N., Vaseeharan S.S., Ranganathan C., and Raveendaran N., (1998), "An Economic Analysis of Export Performance of Coir and Coir Product in India", Indian Journal of Agricultural Marketing, 12(1), pp: 88-99.
7. Alexander J., (1976), "Coir Industry of India and Export Markets", Journal of Industry and Trade, October, pp:15-18.
8. Bhaskaran Unnithan K., (1970), "Coir Industry in India with Special Reference to Marketing and Trade", Coir Board, Ministry of Micro, Small & Medium Enterprises (MSME), Kochi.
9. Chennakrishnana P., (2012), "Coir Production and its Export", KisanWorld, 39(3), March, pp: 14-19.
10. Coir Board (2009), "Coir Exports to Cross Targeted Figures", Coir News, March, pp: 22-26.
11. Gandhi. G. N., (2001), "Export of Coir Products in the Emerging International Business Scenario", Paper presented at the International Seminar on Coir, Coir Board, Ministry of Micro, Small & Medium Enterprises (MSME) Kochi, October 11-13.
12. Kumaresan A., (2009), "Coir Exports: on the Growth Path", Facts for You, 30(1), October.
13. Kutty V.K.K., (1997), "Marketing Strategy for Promoting Sales of Coir Products", Coir News, 28(1), Coir Board, January, pp: 21-24.
14. Nagaraja G., (2011), "Export of Coir and Coir Products from India", International Journal of Research in Commerce, Economics and Management, 1(6), October, pp: 109-111.
15. Papen Kalatuprakal, (2008), "Coir Exports Suffer as Tiff Between Suppliers & Producers Worsens", Coir News, September 22, pp: 7-10.
16. Pylee (1975), "A Study of Coir Industry in India: Problems and Prospects" Coir Board, Ministry of Micro, Small & Medium Enterprises (MSME), Kochi.
17. Ramesh R.P., (2006), "India: Coir Industry in Need of Tech Upgradation", Coir News, March 16, pp: 14.
18. Samsai T., and Mahendran K., (2014), "An Economic Analysis of Production Performance of Coir Fibre Industry in Western Region of Tamil Nadu", International Journal of Commerce and Business Management, 6(2), April, pp: 211-215.
19. Satya Sundaram I., (2012), "Coir Diversification and Exports Hold the Key", Facts for You, 32(12), September, pp: 11-12.
20. Seeni Kamal M., (2009), "Coir Products and Their Process in Tamilnadu", Kisan World, 36(8), August, pp: 20-21.
21. Shanmugapriya B., Saranya and Abinaya S., (2011), "Coir Industry – Opportunities and Challenges", Kisan World, May, pp: 37-39.
22. Sudalaimuthu and Anitha R., (2008), "Export Performance of Selected Coir Products from India after Globalization", Coir News, Volume 10, pp: 23-24.
23. Coir Board, (1995-96 to 2010-11), "Annual Reports from 1995-96 to 2010-11, Ministry of Micro, Small & Medium Enterprises (MSME), Government of India, Kochi.
24. Government of India and Tamil Nadu (1994), "Survey of Coir Industry in Tamil Nadu", Coir Board, Ministry of Micro, Small & Medium Enterprises (MSME), Kochi, pp: 52-55.

#### WEBSITE

1. [www.coirboard.com](http://www.coirboard.com)
2. [www.ccriindia.org](http://www.ccriindia.org)
3. [www.coirtrade.com](http://www.coirtrade.com)
4. [www.coconutboard.nic.in](http://www.coconutboard.nic.in)