

## INDIAN JUTE INDUSTRY AND ITS FUTURE

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### ABSTRACT

Jute is a popular fibre for its ability to be used in various forms in packaging and handicraft industry. The industry contributes greatly to the country's economy and has potential to propel the economy to greater heights in coming years. It supports nearly 4 million farm families, besides providing direct employment to 2.6 lacks industrial workers and livelihood to another 1.4 lacks people in the tertiary sector and allied activities.

Because of stiff competition from plastic and other cheaper materials, which emerged for packaging on a large scale, jute suffered a decline in demand and accordingly the production of jute and jute goods declined. But with an era of environmental awareness emerging, Jute bounced back again due to its environment friendly and bio-degradable qualities. Jute has been facing ups and downs in the last few decades, but it has all the potentials of becoming the sustainable golden fibre of the future.

This paper is an attempt to highlight the growth of Indian jute industry in the global market as well as highlighting the overall scenario of Indian jute industry in recent years. The study is based on secondary data and information.

**KEYWORDS:** Export, Growth, Performance, Jute, Market

### INTRODUCTION

#### Background

Jute, a natural fibre, is a precious gift of Mother Nature to the mankind. For last thousands of years, it has been used by human society as a packaging material not only in India, but also in many countries abroad. Towards the last quarter of the 20<sup>th</sup> century, many more alternate and cheaper materials of this natural fibre have been invented by the human society and have been used as packaging materials. But, as most of these newly developed packaging materials were synthetic and non biodegradable, the growing Environmental awareness round the world has affected their use adversely. This resulted in bringing jute back as more environmentally friendly and the main packaging material. This also made jute one of the major cash crops in various growing countries.

The countries which grow jute on a large scale are mainly India, China, Bangladesh, Thailand and Nepal. As far as India is concerned, the Indian jute industry and the jute sector are one of the oldest sub sectors of its Agro- industrial economy. In India, jute is mainly grown in the Eastern and North Eastern states like Bihar, West Bengal, Assam, Meghalaya, Orissa, Tripura etc.

It is estimated that the jute sector provides employment to nearly 4.5 million people in the country out of which 0.37 million workers are engaged in organized mills including tertiary sector and allied activities, while it also provides support to the 4 million farmer families in our country.

Jute is also called the *golden fibre of the future* because it meets all the scientific standards for being a 100% natural and environment friendly fibre, is biodegradable, is renewable and is considered a safe packaging material as well as a safe material for many other use in the future. Jute is also considered as a 'zero waste' material because every part of this natural fibre is used and nothing goes waste, starting from the leaves of the jute plant which is cooked and eaten as a vegetable, the stick gets used as a domestic fuel after extraction of the jute fibre and another part of its stem is used as building material. The leaves which the plant sheds, go to enrich the soil.

The environmental scientists have established that one acre of jute plants absorbs nearly 6 MT of CO<sub>2</sub> from the atmosphere in its maturity period of 120 days and it releases 4.4 MT of oxygen in the same period. This is several times more than the normal trees.

### The Historical Perspective

In the 1970s and 80s, when plastics, cardboard etc emerged as alternate packaging materials, which were not only cheaper, but were also very convenient to use, the demand for jute packaging started going down.

But with the emergence of strong environmental concerns against the non biodegradability and high toxicity of plastic etc, Jute demand again started picking up. During that period, it was seen that due to environmental concerns lot of countries started banning plastics in their countries. More and more countries are joining this campaign.

In our own country, due to the growing environmental concerns, state and the central government started making laws and banning the use of certain kinds of non degradable plastics. The ministry of textiles, the government of India has prescribed that minimum 90% of the packaging materials of food grains should be jute and not plastics. Similarly the govt has stipulated that minimum 10 % of the packaging material for sugar should be jute. By now most of the state govts have banned the use of plastics. This has given a boost to the demand of jute by the jute industry.

As a result, the plantation area and the production of jute also started picking up. The figure for the last 50 years on a five yearly basis as given below also indicates the same.

**Table 1: State Wise 5 Yearly Cumulative Areas and Production of Jute**

States	50-51 to 54-55		55-56 to 59-60		60-61 to 64-65		65-66 to 69-70	
	Area	Crop	Area	Crop	Area	Crop	Area	Crop
West Bengal	1394.9	257.5	2131.9	12108.4	2092.1	15460.5	2029.1	13713
Tripura	41.3	252.5	41.3	278.3	54	380.0	53	4026
Assam	640.8	4131.4	688.4	5501	669.9	4570.7	644.3	4745.7
Bihar	741	3438.4	961.5	4903.5	5253.9	5253.9	609.6	3756.3
Orissa	215.7	1215.6	190.3	899.1	240.4	1514.6	214.8	1451.1
U.P.		92.7	593.8	99.9	730.6	83.2	682	81.5
Meghalaya	24	187.0						
States	70-71 to 74-75		75-76 to 79-80		80-81 to 84-85		84-85 to 89-90	
	Area	Crop	Area	Crop	Area	Crop	Area	Crop
West Bengal	2024.2	15145.6	2295.7	17526.7	2553.4	21008.9	2515	25512
Tripura	293	262.9	134	104.2	17.8	1274	15	112
Assam	690.2	5144.4	5296	1755.8	551.4	4500	516	4478
Bihar	653.2	331.6	698.2	38116	674	4103	345	5843
Orissa	241.3	1063.5	227.8	1874	224.2	1726.4	180	2102
U.P.	543.1	227.8	388.6	40.4	381.7	21	210	2229
Meghalaya								

(Source: Jute Technology Mission, Ministry of Textiles, Govt. of India)

There has also been fluctuating in the area of jute cultivation in our country because of following three reasons-

- Dependence of rainfall and its fluctuations during the rainy seasons.
- The fluctuating demand for jute from the jute industry, which results in a fluctuation of price realization of raw jute.
- Comparative income earned by the farmers from other competing crops during the last jute season.

If we look at the recent data of the main jute growing states of West Bengal, Bihar, Assam, Orissa, Andhra Pradesh, Tripura, Meghalaya in the following table giving the position of supply and demand of raw jute

**Table 2 A: State Wise Production & Raw Jute Qty: In Lakh Bales**

(A = Area in '000 Hect; P = Prod. in '000 Bales of 180 K. g Per Bale; PY = Productivity in QTLS / Hect)												
(April / March)	2000 - 2001			2001 - 2002			2002 - 2003			2003 - 2004		
	A	P	PY	A	P	PY	A	P	PY	A	P	PY
State												
Assam	82	1000	22	86	100	21	90	1000	20	72	800	20
Meghalaya	7	50	12.8	6	3	12	7	50	13	6	40	13
West Bengal	617	7200	21	518	604	21	652	7720	21	546	6370	21
Bihar	108	1100	18	108	95	16	120	1200	18	90	900	18
Orissa	24	250	18	22	21	17	35	250	18	2	200	18
Andhra Pradesh	82	650	14	72	56	14	82	640	14	71	550	14
Tripura	3	3	18	4	2	16	4	40	18	4	40	18
Nagaland	-	-	-	-	-	-	-	-	-	-	-	-
Uttar Pradesh	-	-	-	-	-	-	-	-	-	-	-	-
Others	63	220	6.28	57	19	6	30	100	6.28	30	100	6.28
<b>Total</b>	<b>986</b>	<b>105</b>	<b>19.3</b>	<b>873</b>	<b>9000</b>	<b>18.5</b>	<b>1020</b>	<b>11000</b>	<b>19.35</b>	<b>83.9</b>	<b>9000</b>	<b>19.35</b>
(April / March)	2004 - 2005			2005 - 2006			2006 - 2007			2007 - 2008		
	A	P	PY	A	P	PY	A	P	PY	A	P	PY
State												
Assam	63.1	435.8	6.9	62.7	603.6	9.6	63	583.3	9.2	65	683.7	10.52
Meghalaya	8.2	39.2	4.7	8.4	55.7	6.63	8.4	55.1	6.6	8.4	54.9	6.53
West Bengal	577.6	7934.9	13.7	569.3	8114.5	14.2	605.6	8506	14	617.2	8293.5	13.44
Bihar	150	1180.2	7.9	147.5	1386.6	9.4	141.2	1389.8	9.8	154.2	1464.9	9.5
Orissa	30.1	145.9	4.9	25.7	141.5	5.5	26.7	132.4	4.9	27.9	151.1	5.42
Andhra Pradesh	53	458	8.6	50	455	9.1	62	544	8.8	57	501	8.79
Tripura	2.8	22.5	8	2.8	23.3	8.3	1.6	11.8	7.3	1.5	10.5	7
Nagaland	-	-	-	-	-	-	-	-	-	-	-	-
Uttar Pradesh	-	-	-	-	-	-	-	-	-	-	-	-
Others	31	55.9	1.8	31.3	59.4	1.9	26.6	50.6	1.9	29.1	50.9	15.13
<b>Total</b>	<b>915.8</b>	<b>10272.3</b>	<b>11.2</b>	<b>897.7</b>	<b>10839.6</b>	<b>12.1</b>	<b>935.1</b>	<b>11273</b>	<b>12.1</b>	<b>960.3</b>	<b>11210.5</b>	<b>11.67</b>
(April / March)	2008 - 2009			2009 - 2010			2010 - 2011			2011 - 2012		
	A	P	PY	A	P	PY	A	P	PY	A	P	PY
State												
Assam	65.4	674.3	10.31	62	638	10.29	67.3	650.7	1710	67	795	2136
Meghalaya	8.4	54.6	6.5	0	0	0	8	82.6	1194	12	86	1290
West Bengal	592.1	7965.5	13.45	623.6	8893.3	14.26	580.8	8214.3	2386	608	8800	2605
Bihar	150.9	1220.1	8.09	141.8	1181.7	8.33	145	1310.4	1580	158	1930	2199
Orissa	22.5	114.7	5.1	20.2	85.4	4.23	19.2	113.5	1456	24	193	1448
Andhra Pradesh	37	295	7.97	23	188	8.17	25	224	1613	0	0	0
Tripura	1.1	8.7	7.9	0	0	0	1.3	10.7	1541	2	9	810
Nagaland	-	-	-	-	-	-	3	5.4	324	-	-	-
Uttar Pradesh	-	-	-	-	-	-	-	-	-	-	-	-
Others	23.5	32.4	7.12	42.1	117.5	2.79	36.8	568	388	30	96	576
<b>Total</b>	<b>900.9</b>	<b>10365.3</b>	<b>11.51</b>	<b>912.7</b>	<b>11103.9</b>	<b>12.17</b>	<b>827.2</b>	<b>10620.2</b>	<b>1722</b>	<b>901</b>	<b>10690.7</b>	

**Table 2 B: State Wise Production & Raw Jute Qty: In Lakh Bales**

<b>(A = Area in '000 Hect; P = Prod. in '000 Bales of 180 K. g Per Bale; PY = Productivity in QTLS / Hect)</b>						
<b>(April / March)</b>	<b>2012 - 2013</b>			<b>2013 - 2014</b>		
	<b>A</b>	<b>P</b>	<b>PY</b>	<b>A</b>	<b>P</b>	<b>PY</b>
State						
Assam	70	823	2166	81	823	1829
Meghalaya	12.6	86.31	1236	0	0	0
West Bengal	577	8349	2605	0	0	0
Bihar	139.1	1690	2182	0	0	0
Orissa	22.4	177.7	1427	578	8522	2654
Andhra Pradesh	25	225	1620	133	1540	2084
Tripura	1.3	11	1523	22	176	1440
Nagaland	4.63	40.2	1564	15	142	1704
Uttar Pradesh	0.4	4.5	2025	1.2	9.8	1470
Others	20	0	0	36.3	203.6	1010
<b>Total</b>	<b>827.7</b>	<b>11406.7</b>	<b>2353</b>	<b>866.5</b>	<b>11416</b>	<b>2372</b>

**Table 2 C: State Wise Production & Raw Jute Qty: In Lakh Bales**

<b>(A = Area IN '000 Hect; P = Prod. In '000 Bales Of 180 K.G Per Bale; PY = Productivity In QTLS / Hect.)</b>						
	<b>2014 - 2015</b>			<b>2015 - 2016</b>		
	<b>A</b>	<b>P</b>	<b>PY</b>	<b>A</b>	<b>P</b>	<b>PY</b>
State						
Andhra Pradesh	7	50	1,286	6	0	0
Assam	75	795	1,908	76	767	1,917
Bihar	111	1,500	2,428	113	0	0
Chattisgarh	1	2	360	0	0	0
Jharkhand	0	0	0	0	0	0
Karnataka	0	0	0	0	0	0
Madhya Pradesh	0	1	480	0	0	0
Maharastra	0	0	0	0	0	0
Meghalaya	0	0	0	8	0	0
Nagaland	0	0	0	3	0	0
Odisha	13	68	946	14	0	0
Tamilnadu	0	4	3,870	0	0	0
Tripura	0	0	0	1	0	0
Uttar Pradesh	0	0	0	0	0	0
West Bengal	576	8,969	2,802	519	8,075	2,801
Others	19	105	989	2	0	0
<b>Total</b>	<b>803</b>	<b>11,494</b>	<b>2,577</b>	<b>743</b>	<b>8,842</b>	

Ultimately going down to 5.19 lacks hectares in 2015-16. Similarly, there has been wide variations in production and productivity also in west Bengal. Similar is the case with other states also.

Now if we look at the data of total production of jute goods in the country from 1995-96 to 2016-17 as given in the chart below:

Table 3

Production of Jute Goods					
Qty: In 000' M. Tons					
(April / March)	Hessian	Sacking	CBC	Others	Total
1995 - 96	413.9	676.3	30.5	5312.3	1433
1996 - 97	368.7	666.6	25.2	340.4	1400.9
1997 - 98	392.4	864.6	19.8	401.6	1678.4
1998 - 99	344.1	903.3	18.5	330.3	1596.2
1999 - 00	344.5	909.2	8	328.5	1590.2
2000 - 01	337.9	952.9	6.6	327.5	1624.9
2001 - 02	275.3	1034.3	5	286.2	1600.8
2002 - 03	338.3	1000	5.4	278.1	1621.8
2003 - 04	305.2	979.3	4.7	281.1	1571.3
2004 - 05	310.3	992	4	306.8	1613.1
2005 - 06	320	1007.5	6.2	248.5	1582.2
2006 - 07	250.3	874.7	2.9	228.4	1356.3
2007 - 08	350.3	1143	6	279.7	1776
2008 - 09	297.8	1071.4	4.5	260	1633.7
2009 - 10	206.5	921.6	2.4	192.6	1323.3
2010 - 11	244.4	1076.9	4.7	239.7	1565.7
2011 - 12	239.9	1165.1	3.6	173.8	1582.4
2012 - 13	210	1218.2	2.9	160.2	1591.3
2013 - 14	202.5	1150.4	3.3	171.5	1527.7
2014 - 15	211.3	901.8	3.6	150.5	1267.2
2015 - 16	196.5	891.9	0.9	127.8	1217.1
2016 - 17 (till Feb 2017)	15.4	72.4	0	8.2	96

It shows that the total production of jute goods in the country which was 14.33 lack tonnes in 1995-96 went up to 16.78 lack tonnes in 1997-98 but again fell down to 13.56 lack tonnes in 2006-07 again rising to 17.76 lack tonnes in next year 2007-08 only to fall in future years and finally going down to 12.17 lakh tonnes in 2015-16

It is also seen from the data that the fall in production figure has been mainly due to fall in production of all commodities, for example hessian, CBC and other goods except sacking. These fluctuations have been obstructing the planned development of the jute sector in general and jute industry in particular.

The data regarding the domestic consumption of jute goods are given below:

Table 4: Domestic Consumption of Jute Goods

Qty: In 000' M. Tons					
(April / March)	Hessian	Sacking	CBC	Others	Total
1996 - 97	259.8	652	1.7	222.5	1336
1997 - 98	285.8	842.4	1.5	257.5	1387.2
1998 - 99	286.2	886.3	1.3	230.5	1404.3
1999 - 00	287	907.4	1.4	230.9	1426.7
2000 - 01	269.7	935.2	0.8	229.4	1435.1
2001 - 02	243	1021.4	0.9	195.5	1460.8
2002 - 03	251.3	954.5	1.9	167.7	1375.7
2003 - 04	253.3	910	0.3	179.3	1342.9
2004 - 05	244.8	972.4	0.5	176.5	1394.2
2005 - 06	237.6	974.2	0.7	165.3	1378.8
2006 - 07	209.1	854.4	0.5	152.7	1216.2
2007 - 08	271.4	1102	1.2	168.2	1542.7

<b>Qty: In 000' M. Tons</b>					
<b>(April / March)</b>	<b>Hessian</b>	<b>Sacking</b>	<b>CBC</b>	<b>Others</b>	<b>Total</b>
2008 – 09	249.8	1043	0.3	142.5	1435.6
2009-10	182.6	879.8	1.2	141.9	1205.5
2010-11	182.3	1034.4	0.9	133.9	1351.5
2011-12	184.2	1079.7	0.1	117.9	1381.9
2012-13	165.8	1118.7	0.8	113.9	1399
2013-14	157.6	1043.1	0.4	126.4	1327.5
2014-15	171.9	870.4	0	111.3	1153.6
2015-16	164.2	889.1	0	90.2	1143.5
2016-17(till Feb 2017)	11.8	74.5	0	6.7	93

It is quite disturbing to see that the domestic consumption of jute goods which was 13.36 lakh tonnes in 1996-97 went up to 14.06 lakh tonnes in 2001-2002, ultimately falling down to 11.43 lakh tonnes in 2015-16.

On a closer look it becomes clear that this decline in consumption has been mainly due to decline in consumption of hessian and other jute goods.

### **Export of Jute Goods**

The data given below regarding exports of jute goods give a totally different picture. The total export of jute goods which was 572.30 crores in 1996-97 has risen to nearly 3 times to 1880.63 crores in 2013-14. This steady growth in export has been mainly due to the growth of export of sacking and other jute goods.

**Table 5: Exports of Jute Goods**

<b>Qty: In 000' M. Tons Value: Rs / Crores</b>						
<b>(April / March)</b>	<b>Hessian</b>	<b>Sacking</b>	<b>CBC</b>	<b>Others</b>	<b>Total</b>	<b>Value</b>
1996 - 97	76.3	6.7	15.4	5.6	155	572.3
1997 - 98	103.5	17.9	13.5	9.7	240	694.7
1998 - 99	65.3	8	15.3	12.9	171	582.3
1999 - 00	57.4	5.6	6.3	15.8	169	571.5
2000 - 01	61.4	17.3	5.9	11.5	181.4	646.3
2001 - 02	36.8	12.2	4.4	13.7	146.1	567.5
2002 - 03	77.4	37.5	3.8	22.5	229.2	916.6
2003 - 04	157.1	33.4	5.2	24.1	310.4	1051.88
2004 - 05	153.7	31.2	1.5	15	321.8	1146.9
2005 - 06	171.6	33.2	0.9	11	285.8	1186.24
2006 - 07	122.2	31.6	0.1	10.6	242.8	1055.16
2007 - 08	67.8	30	N.A	14.4	204.3	1143.57
2008 - 09	53	53.2	N.A	10.7	199.8	1216.16
2009-10	31.3	26.5	N.A	8.3	110.5	859.46
2010-11	53.9	40.6	N.A	10.4	199.3	1363.29
2011-12	58.3	81.1	N.A	8.2	201.1	1502.14
2012-13	51.2	103.8	N.A	59	214	1598.05
2013-14	51.4	109.4	N.A	55.3	216	1880.63
2014-15 (Till Dec.)	27	31.1	N.A	7.4	88.6	1006.4

So, it is very clear that although the domestic consumption of jute and jute diversified products declined over the years, but the export market of the same product has grown almost three times in the same time period. This may perhaps be due to the reason that the developed world which is highly conscious about environmental issues is replacing the plastic and non biodegradable product with the natural fibre of jute. But in our country because of lack of awareness and literacy, we have still not started replacing plastic etc with jute in a big way.

With the rise in consciousness level in future the domestic demand for this natural and environment friendly fibre is bound to go up.

### **The Status of Jute Industry in India**

As per the data of Ministry of Textiles, at present we have 77 composite jute mills in the country located in different states as - West Bengal -60, Andhra Pradesh -7, Bihar -3, Uttar Pradesh- 3, Assam -1, Orissa -1, Chhattisgarh – 1, Tripura – 1.

In addition to these mills we also have eight, 100% export oriented manufacturing units which produce high quality yarn, whittle (rope), fine hessian cloth, jute decorative products, etc. As per a study report published by the Jute Manufacture Development Council (JMDC) in 2006, there has been a healthy growth in the number of units making jute diversified products. There were 673 such units in the country in 1999-2000 which rose to 1320 in 2005.

One of the main reasons of decline of domestic consumption is the issue of quality of jute yarn and jute goods produced by jute mills which were not fully modernized. Government of India got a technical assessment done of the jute mills of the country by “INDIAN JUTE INDUSTRY RESEARCH ASSOCIATION (IJIRA)” An assessment of 50 private mills by IJIRA gave the following results-

- Number of mills with capacity utilisation of 90% - 33 mills.
- Mills with capacity utilisation between 80-90% - 14 mills.
- Mills with capacity utilisation between 70-80 - 2
- Mills with capacity utilisation below 70 -1.

But when IJIRA looked at the machine utilisation index (MUI) of these mills, the position was found very disappointing. In most of the cases the machine utilisation was very low and sometimes below 50%.

The reason for low MUI was found to be as follows-

- Very poor maintenance of machine.
- Poor rate of replacement of old machinery.
- Running of industries by less qualified and less skilled person.
- Poor planning and management of production in the mill.

Although the jute industry in the country suffers from above mentioned deficiency, but it also shows the opportunity that if these deficiencies are addressed the jute industry will progress on sustainable path also.

Now let us see what are the Strengths, Weaknesses, Opportunities and Threats of these industries and whether it is possible to attain sustainable development.

## **SWOT ANALYSIS OF THE INDIAN JUTE INDUSTRY**

### **Strengths**

The following are the strengths of the jute sectors.

Jute is a biodegradable and the environmental friendly natural product

- Hence, with growing environmental concern about the use of plastic etc and the resultant ban being imposed by many countries, including India, jute is bound to bounce back.
- More than four million farmer families are dependent on jute cultivation and by introducing modern agriculture concept and modern facility, the productivity and quality of jute fibre can be enhanced which will give it larger market.
- The jute industry has the larger employment capability. Hence, if the workforce is skilled and qualified managers and manpower employed in these industries then the efficiency, productivity and quality of the product shall improve. Hence the product would be able to compete in the domestic and foreign market.

### Weaknesses

- The obsolescence of the machinery in the jute industry affects its productivity and efficiency very seriously and erodes its profits.
- The jute industry suffers from major labour related issues. Each mill has multi unions. On one hand there is huge dissatisfaction in the labour resulting in bad labour productivity, while on the other hand management is not able to invest in modernisation and improving working condition so that labour efficiency may improve.
- There are frequent strikes and lockouts in the jute industry affecting it adversely.
- The R&D efforts in the jute industry are very poor. Efforts towards the quality improvement of the yarns and the development of new jute diversified products were highly inadequate. The emphasis by the govt and the jute industries as well as investment by them in R&D has not been satisfactory at all.
- In our country the marketing of jute products has not been organized in modern perspective. Aggressive marketing of jute products by projecting it as ECO FRIENDLY FIBRE OF THE FUTURE needs to be planned and executed by the private and government sector.
- It has not been able to implement the productivity linked wage payment in most of the cases.

### Opportunity

All the weaknesses in the jute industry as mentioned above, also presents a large number of opportunities to make the sector a sustainable one. For example:

- The lack of modernization presents a huge opportunity to replace plant, machinery and systems with more modern ones so as to conserve industry's resources and improve its productivity, efficiency as well as the quality of the products. This will also enhance their cost competitiveness in domestic and international markets.
- The unskilled labour force and not fully qualified managers, presents a huge opportunity to run large scale, skill development programs and also presents a huge opportunity of Skilling their manpower so as to improve their efficiency and productivity.



- The use of jute in making its diversified products is increasing day by day, mainly due to its bio degradability and its Eco friendly character. In addition to its traditional uses like sacking and packaging material, the new innovative uses of jute which have emerged very strongly in the last 2-3 decades are:
  - Multipurpose jute bags.
  - Food grade jute bags for coffee and tea industry
  - Making fabrics by blending jute with other fibres like cotton, synthetic wool for the apparel industry
  - Jute Geo textiles
  - Auto mobile panels made of jute being used by Audi, Porsche, Mercedes Benz car making companies.
  - Jute panels being used in rail coaches.
  - Jute particle board.
  - Jute floor coverings, carpets and doormats.
  - Jute sandals being used by five star hotels.
  - Jute decorative pieces, jutejewellery in fashion industry,
  - Blending jute with polypropylene for making floor coverings and making jute blankets.
  - It is also being tried to produce quality paper from jute.

M. lab scale experiments have shown that quality jam, jelly and sauce can be produced from resultant allied fibre of jute and the cost of such products makes it economically viable as well. Such products have been found to be fit for human consumption also.

## THREATS

Now let us see the threats jute faces from its rival or alternate fibres. These threats are normally seen as below:

- Although jute is fully natural, Eco friendly and biodegradable material, but still due to its higher cost it faces tough competition from cheap synthetic materials. Especially in a country like ours, where the awareness about environmental issues is not very high, masses prefer cheaper material.
- In case of bulk packaging or container based packaging in large scale shipping/ transport of goods, jute is not found to be cost effective.
- The inefficiency arising out of lack of skilling or training of labour force, affects the productivity of jute industry as well as adversely affects its product quality. There is frequent disruption in supply of finished goods due to strikes, lockouts frequent. Hence the jute industry is not favored by large buyers of jute goods.
- The indifference of the owners of the jute mills towards modernising the jute industry and their dependence mainly on government subsidies for modernisation gives rise to a huge threat to the jute industry.

## CONCLUSIONS

Now let us try to see if the jute industry has a sustainable future in India. As we have seen earlier that although jute has a huge advantage of being a natural, Eco friendly and biodegradable fibre, but its higher costs as compared to cheaper synthetic material as well as the low efficiency and quality of the jute industry and its products have been posing a huge issue.

At the same time we have also seen that although the domestic consumption of jute as packaging material has declined, but the production and sale of diversified jute products have been going up. It has also been seen that the export of jute diversified products has multiplied three times in the last ten years. It proves that jute has a potential and this 'GOLDEN FIBRE OF THE FUTURE' can have a bright, sustainable future provided the following issues are taken care of jointly by the jute industry and the government:

- The productivity and quality of the raw jute crop by introducing a high yielding variety of jute crops - this has to be very active and financially supported by the state and central govts;
- Scientific methods of jute cultivation, harvesting, retting have to be introduced in a mission mode. For achieving this, a dedicated and well trained extension machinery has to be put in place by the govt ;
- The jute industry needs to be modernized by installing most modern and efficient machinery in place of obsolete machinery so as to improve the efficiency, productivity, and quality of its products. This will enhance their quality and cost competitiveness in the domestic as well as world market very effectively
- For facilitating modernization of the jute mills, the government may support the industry by introducing a capital interest subsidy so that the jute industry gets loans from banks/financial institutions at an effective rate of 2%-3% instead of the present actual interest rate of 14%-15% which makes the project financially non-viable.

Because of a large number of cases of misuse of capital subsidy given to the jute industry by the government in the past, the introduction of interest subsidy in place of capital subsidies being suggested.

- A large scale training/Skilling campaign of the jute workers/supervisors should be organized by IJIRA which should be duly supported by the government
- A research needs to be undertaken by IJIRA as well as government organizations develop new/innovative products to boost the demand of jute in the domestic and foreign market
- A large scale awareness campaign needs to be organized by the industry and the government jointly in India and abroad so as to position jute on the world map as the most eco-friendly, bio-degradable golden fibre of the future. This will boost up the demand of jute very effectively in the domestic as well as export market
- A very effective industrial dispute resolution mechanism has to be put in place so as to resolve the issues and make the working environment in the industry positive and productive. At the same time, regular counselling/ motivational sessions with trained counselors/motivators to create a positive frame of mind in the workers of the jute industry. This will result in the improvement of their efficiency and productivity as well as the quality of the jute goods produced by them.

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