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منظمة  
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للأمم المتحدة

# COMMITTEE ON COMMODITY PROBLEMS

## JOINT MEETING OF THE THIRTY-NINTH SESSION OF THE INTERGOVERNMENTAL GROUP ON HARD FIBRES AND THE FORTY-FIRST SESSION OF THE INTERGOVERNMENTAL GROUP ON JUTE, KENAF AND ALLIED FIBRES

**Tanga, United Republic of Tanzania, 15-17 November 2017**

### FUTURE DIRECTION OF JUTE: GEO-TEXTILE AND AGRO- TEXTILE TECHNIQUES AS POTENTIAL AVENUES FOR GROWTH AND PRODUCT DIVERSIFICATION IN THE INDIAN JUTE INDUSTRY

#### I. INTRODUCTION

1. Jute is the second most important natural fibre produced in India, after cotton, and source of livelihood for about 4 million farmers and their families. Its processing and production of associated goods provide employment to more than 400 000 people. Jute plays an important role in the economy of the eastern and north-eastern states, spanning both agriculture and industry sectors.
2. World production of jute, kenaf and allied fibres stood at 3 312 thousand tonnes in 2016-17, as per statistics collected by the Secretariat of the Intergovernmental Group on Jute, Kenaf and Allied Fibres. This is a production increase of about 24.6 percent over the previous season (Table 1).
3. In 2016/17, India is the world's largest producer of jute, followed by Bangladesh, accounting for 50 and 46 percent of world jute production, respectively (Table 1). Other producing countries include China, Myanmar, Nepal and Thailand, and together they produced 2 percent of world production of jute, kenaf and allied fibres.
4. The 2015-16 season saw a major price increase of 55.9 percent compared to the previous season, which was followed by a drop in prices of 17.6 percent in 2016-17. The Indian market jute fibre prices closely reflected total supply conditions in the country. Production of jute, kenaf and allied fibres increased by 41.5 percent during the 2016-17 season compared to the previous season. The high price fetched in 2015-16, coupled with good growing conditions, enticed many farmers to step up production in 2016-17, leading to an oversupply.

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**Table 1: World jute, kenaf and allied fibres production (thousand tonnes)**

Geographical area	2014-15	2015-16	2016-17
World (annual growth rate)	2 779	2 657 (-4.4%)	3 312 (+24.6%)
India (annual growth rate)	1 296	1 170 (-9.7%)	1 656 (41.5%)
Bangladesh (annual growth rate)	1 351	1 360 (+0.7%)	1 530 (+12.5%)
India's percentage of world production	46.6	44.0	50.0
Price of jute (Rs/maund) (annual growth rate)	1 243.9	1 940.2 (+56.0%)	1 598.6 (-17.6%)

Source: FAO Secretariat of the IGG on Jute, Kenaf and Allied Fibres.

Note: Price of Jute type "TD5" at Calcutta.

Note: Parenthesis show values of the annual growth rate.

5. India has a policy of procuring jute from farmers based on a notified minimum support price. If the market prices fall much below minimum levels, which is approximately Rs 35 per kilogram, the Government intervenes and purchases jute on the market. There is no cap to this action, whenever market price is lower than minimum support price, farmers may approach the Jute Corporation of India, a public sector firm under Government of India, who shall buy the jute from these farmers at minimum support price. In this context, the Jute Corporation of India supports the Government by procuring raw jute in the eastern part of the country.

6. The total area under jute cultivation has been declining in the last three years, at a rate of 2 to 3 percent per year. The combination of land area and production figures suggests that in 2016-17 yield has increased by 39.3 percent, when compared to the previous season. Such rising yield results from significant efforts led by the Government, supplemented by the private sector, including the Indian Jute Mills Association, towards strengthening the sector, as well as jute mills and the associated processing industry. These efforts include *inter alia* the attempt to find markets for other uses of jute, but, so far, these account for not more than 10 percent of the raw jute production. At the same time, jute diversified products constitute about 20 percent of India's exports of total jute products, despite the versatility of the fabric. Exports constitute only about 20 percent of the total turnover of the organized jute industry, most of the jute products being consumed domestically.

**Table 2: Area under jute cultivation and yield in India**

	2013-14	2014-15	2015-16	2016-17
Area	838	810 (-3.3%)	785 (-3.1%)	765 (-2.6%)
Yield (tonne per ha)	1.94	1.58 (-18.1%)	1.58 (0.0%)	2.20 (+39.3%)

Source: FAO Secretariat of the IGG on Jute, Kenaf and Allied Fibres.

Note: Parenthesis show values of the annual growth rate.

## II. EXPORTS OF JUTE GOODS: TOWARDS A MORE DIVERSIFIED INDUSTRY

7. The export value of jute goods in 2016-17 is USD 324 million, 10 percent higher than in 2015-16. The main jute-based products exported are hessian, sacking, yarn and jute-diversified products (JDPs), which include scrim cloth, webbing – especially treated bags – fabric, shopping and carry bags, floor covering and home textiles.

8. Hessian and sacking represent more than half of the exports of all jute products made in India. These exports are also characterized by the highest growth rates, reaching a 12.4 and 33.9 percent increase in 2016-17, respectively. The economic value of JDPs exports has remained constant throughout the period of analysis, representing nearly 30 percent of the total exports value. The value of yarn exports has been declining for the last 3 years down to nearly half the amount attained in 2014-15 (Table 3).

**Table 3: Exports of jute products (million USD)**

Year	Hessian	Sacking	Yarn	JDPs	Others	Total
2014-15	120.21 (42.4)	46.32 (16.3)	21.67 (7.6)	79.44 (28.0)	15.68 (5.5)	283.32
2015-16	129.23 (43.7)	48.03 (16.2)	18.52 (6.3)	87.85 (29.7)	11.96 (4.0)	295.58
2016-17	145.29 (44.8)	64.32 (19.9)	11.36 (3.5)	92.31 (28.5)	10.70 (3.3)	323.99

Note: Parenthesis values are shares of total exports.

9. The declining trend in exports of jute yarn from India is attributed to a reduction in the use of jute yarn by the carpet industry in Europe, which has either shifted to more synthetic fibres or to other jute suppliers, including the Middle East, particularly Egypt. The Middle Eastern region traditionally relied on jute yarn in weft for manufacturing carpets; it has now largely shifted to synthetic fibres. Jute as face yarn of woven carpet has been replaced almost completely, inducing the industry to explore new avenues for diversification.

10. India exports jute goods to a wide set of countries across all continents. Appendix 9 shows India's top ten export markets. The USA leads the list with Rs. 3 908 million. The number of countries

where Indian jute products are exported is rather diverse with no other single country enjoying a two-digit share of the total exports, except the USA. This means that exports of jute-based products from India may be resilient to macro-economic shocks that can occur in the domestic economies of consuming countries. It also implies that an effective national policy supporting India's exports of jute products will need to take into account the specificities of each country/market.

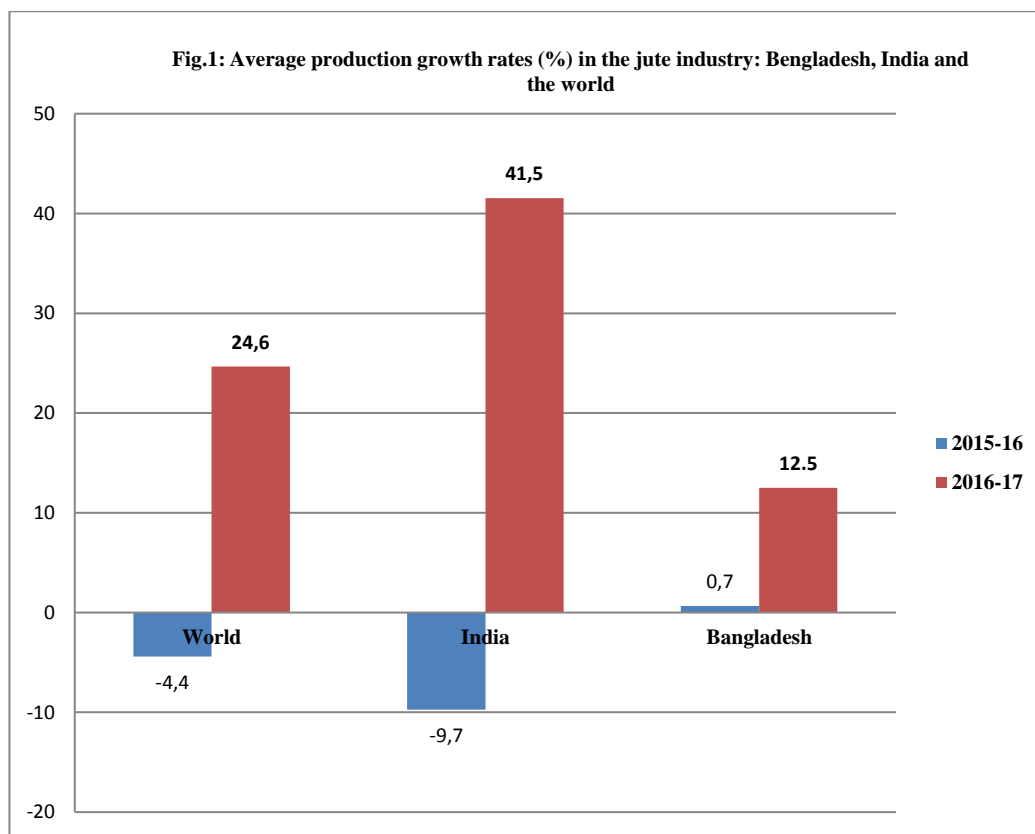
11. The exports by destination and per type of jute product further reiterates the need for a promotion and marketing approach that builds on each market's specificities and preferences.

### III. OVERVIEW OF THE INDUSTRY

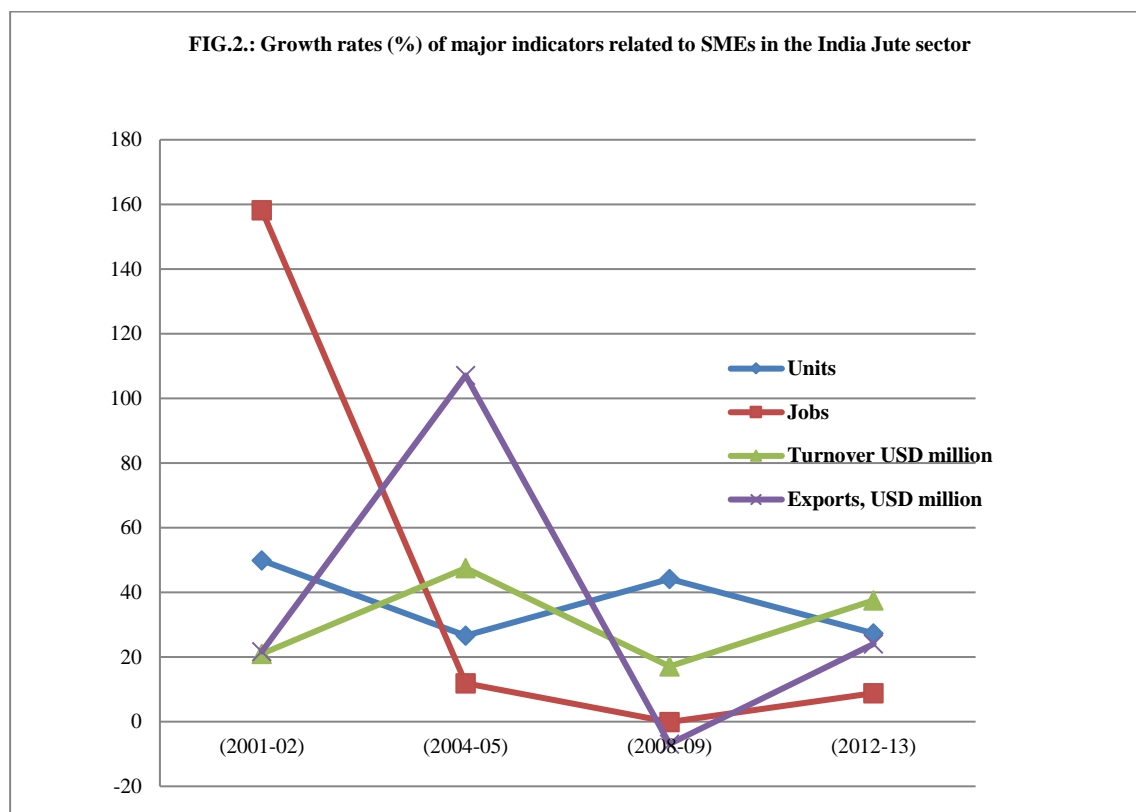
#### A. RAW JUTE

12. India enjoyed a rapid and sustained expansion of its jute industry since the 1940s. Supported by public investments in infrastructure, production has risen from 306 thousand tonnes of raw jute in 1947 to 1 656 million tonnes in 2016. The industry is made up of a healthy blend of large, medium and small enterprises, with 97 composite jute mills<sup>1</sup> in addition to more than 2 400 micro, small and medium enterprises (MSMEs) of jute manufacturing units producing both white and tossa jute (Appendices 1 and 2).

13. The most recent survey shows an increase of 27.3 percent in the number of units of MSMEs reaching an 8.8 percent increase in jobs created by the jute manufacturing sector between 2008-09 and 2012-13.



<sup>1</sup> Most of India's jute mills are located along the banks of the Hooghly River in West Bengal due to a number of factors, including cost-efficient water transport, good networks of railways, roadways and waterways to facilitate movement of raw material to mills, an abundant water supply and cheap labour from neighboring states.



Source: FAO Secretariat of the IGG on Jute, Kenaf and Allied Fibres.

14. This sector generates an average of USD 67 million in annual export earnings, equivalent to USD 337 per job created by the MSMEs jute manufacturing sector.

15. The Indian Council of Agricultural Research plays a significant role in supporting the Indian jute industry. The Central Research Institute of Jute and Allied Fibre and the National Institute of Research on Jute and Allied Fibre Technology promoted quality seeds and better agronomic practices which lead to higher productivity. The Department of Jute and Fibre Technology in Kolkata remains the sole institute in the world that offers degree courses in jute technology.

## B. JUTE GOODS

16. Indian jute mills recorded a total production of jute goods of 1.142 million tonnes in 2016-17 (Table 4). This represents a decrease of 4 percent when compared to the previous season. The Indian jute industry has also begun producing blended yarn, non-woven fabrics, jute composites, jute felt and a number of diversified products, ranging from inter alia jute hand and shopping bags, mats/mattings, furnishing fabrics for textile made-ups, upholstery and wall decorative items, highlighting the fabric's unharnessed versatility. These jute-diversified products are produced by MSMEs that generally add value to the jute products manufactured by the jute mills viz. hessian cloth, yarn, etc. In addition, handicrafts with raw jute fibre and hand-spun yarns are also part of the jute diversification pattern.

**Table 4: Production of Jute goods (thousands tonnes)**

Year	Hessian	Sacking	Carpet backing cloths (CBC)	Others	Total
2014-15	202.6	892.0	2.5	152.3	1249.4
2015-16	195.8 (-3.4%)	880.3 (-1.3%)	3.7 (+48.0%)	110.0 (-27.8%)	1189.6 (-4.8%)
2016-17	178.6 (-8.8%)	871.6 (-1.0%)	3.1 (-16.2%)	89.1 (-19.0%)	1142.4 (-4.0%)

Source: Secretariat of the IGG on Jute, Kenaf and Allied Fibres (2014-15; 2015-16); Office of the Jute Commissioner, Ministry of Textiles, India; and Kolkata and Indian Jute Mills Association (2016-17).

Note: Parenthesis show values of the annual growth rate.

17. Innovative uses of jute products in other sectors, such as geo-textiles, offer great opportunities for further products and demand diversification in the industry.

### C. JUTE GEO-TEXTILES

18. Jute geo-textiles offer eco-compatible solutions to some crucial geotechnical problems such as soil erosion against rain or wind, consolidation of soft soil and construction of rural road, as well as mitigation of soil related constrains on crop production.

#### *Addressing soil erosion*

19. Jute based geo-textile fabrics help in protecting soil and water from various degradation processes, importantly helping reduce soil erosion and water runoffs. Low-cost, jute-made coarse mats with an open mesh woven structure can play a critical role in addressing the two phenomena. They act as "mini-barriers" and reduce the impact of rain or wind, thereby preventing movements of soil particles, seeds and nutrients.

20. A number of field applications on surficial soil erosion control have been conducted in India over the past years confirming the potential of jute geo-textiles-based techniques in reducing soil erosion and loss of nutrients in different regions. The magnitudes are remarkable as the geo-textile-based management approach guarantees at least 50 percent reduction in soil loss and may curb nutrient loss by 97 percent, leading therefore to substantial economic gains through savings on fertilizer consumption (Table 5).

**Table 5: Effects of jute agro-textiles on soil and nutrient loss**

Location	Arcuttipore T.E.		Rosekandy T.E.	
Soil composition	Sand 77%, Silt 18%, Clay 9%		Sand 61%, Silt 24%, Clay 14%	
Year	1995	1996	1995	1996
Reduction of soil loss	96.32%	96.12%	49.02%	49.11%
Reduction of nutrient loss	97.05%	95.46%	71.97%	71.01%

Source: National Jute Board.

Note: Values are in reference to the use of woven jute type with 400g/m<sup>2</sup> and 40 percent of open area.

*Enhancing crop production*

21. Jute geo-textiles have been applied in agricultural management programmes with the objective of increasing crop production and yields. A recent study in West Bengal assesses the impact of various schemes, described by different grams per square meter (GSM) of agro-textiles, on the yield of selected crops. Table 6 shows the results of pooled data in the first year on the yield of tomato, brinjal, cucumber, bitter gourd, papaya and banana.

22. For example, for banana, the second most important fruit crop in India after mango, the yield increases to different doses were 32.52 t/ha (49.92 percent), 36.61t/ha (55.53 percent) and 43.05 t/ha (65.30 percent) respectively for 500, 800 and 1 000 GSM jute geo-textiles.

23. The highest yield gains are associated with the use of the geo-textile at 1 000 GSM compared to 500 and 800 GSM. However, from an economic perspective, it would be fundamental to compare the net benefits arising from the move from a 500 to 800 or 1 000 GSM management scheme, taking in account the associated additional costs. Table 7 highlights such net effect using a cost–benefit ratio applied to the production of different vegetables and fruits.

**Table 6: Effects of jute agro textiles on yields of vegetables and fruit (tonnes/ha)**

Vegetables/fruits	Control	500 GSM	800 GSM	1000 GSM
Tomato	32.78	61.23 (+86.8%)	64.23 (+95.9%)	66.38 (+102.5%)
Brinjal	30.47	50.52 (+65.8%)	55.80 (+83.1%)	60.80 (+99.5%)
Cucumber	9.58	12.58 (+31.3%)	14.92 (+55.7%)	16.50 (+72.2%)
Bitter Gourd	7.35	9.49 (+29.1%)	10.81 (+47.1%)	11.33 (+54.1%)
Papaya	51.75	98.00 (+89.4%)	123.08 (+137.8%)	136.25 (+163.3%)
Banana	65.93	98.45 (+49.3%)	102.54 (+55.5%)	108.98 (+65.3%)

Source: National Jute Board.

Nota: Parenthesis show values of the growth rate over the business as usual practice.

**Table 7: Effects of the jute agro textiles on yield expressed by a cost-benefit ratio**

Vegetables/fruits	500 GSM	800 GSM	1000 GSM
Tomato	2.43	2.21	1.93
Brinjal	1.98	1.89	1.71
Cucumber	1.91	1.74	1.72
Bitter Gourd	1.96	1.75	1.68
Papaya	2.24	2.43	2.25
Banana	2.24	2.26	1.99

Source: National Jute Board.

24. For most of the crops, the cost-benefit ratio is at its highest level when the geo-textile is used at 500 GSM and declines gradually with increasing doses. The exception is for papaya and banana, where the plots treated with 800 GSM showed marginally higher productivity than 500 GSM. It may therefore be concluded that farmers would mostly benefit from the treatment based on 500 GSM. Furthermore, for all the crops under examination, it is not economically efficient to use the 1 000 GSM management scheme given the additional costs associated with it.

25. The efficacy of non-woven jute agro-textile in weed suppression in tea garden plantations has also been empirically confirmed. Findings from the study on two tea plantations in Assam show a decline of 65 percent of weeds as a result of agro-textile management techniques, which increases to up to 78 percent when applied with herbicides and other treatments. Agro-textile management techniques also increase soil moisture, therefore reducing the underlying demand for water for irrigation (Table 8). Similar encouraging results were registered with experiments based on 1 000 GSM non-woven in Malda, West Bengal.

**Table 8: Effects of non-woven jute on weed suppression and on soil moisture (in percent)**

Treatments	Weed Reduction	Soil moisture increase
Control (without treatment)	-	-
Jute nonwoven	65	41
Jute nonwoven + Pre-emergent contact herbicide	62	39
Jute nonwoven + Post-emergent translocated herbicide	78	31
Jute nonwoven + Pre-emergent translocated herbicide	75	32
Jute nonwoven + Post –emergent Contact herbicide	75	55

Source: National Jute Board.

26. The positive impact of jute-based geo-techniques on agricultural productivity and rural infrastructure development opens new avenues for diversification of the Indian jute industry. The results support the scaling-up of best practices, sharing knowledge and building the necessary capacity in an industry looking forward to product and demand diversification.



## **IV. MAINSTREAMING POLICIES THAT PROMOTE A SUSTAINABLE JUTE INDUSTRY**

### **A. PUBLIC ACTIONS TOWARDS AN EFFICIENT AND PRODUCTIVE INDUSTRY IN INDIA**

27. The Government of India supports its jute industry through a set of policies aiming at protecting the livelihoods and employment of millions along the jute value chain. However, the main driver of demand is the Jute Packaging Material Act (1987), which mandates the storage of food grains in jute sackings. This Act paved the way for the production of sacks for the domestic market, accounting for almost 60 percent of India's raw jute production.

28. The National Jute Board is one of the stakeholders that plays a catalytic role in promoting a sustainable Indian jute industry<sup>2</sup>. The Board is entrusted with overseeing the exports of jute products, as well as undertaking research and development studies to increase productivity in the industry. In recent years, the National Jute Board has been mainstreaming a set of actions supporting jute farmers in reaching higher yields. An illustration of this line of action is the Improved Cultivation and Retting Exercise (ICARE), a programme that explores the use of a wide range of innovations, including the introduction of certified seeds for higher yields; mechanization of the weeding process; and the use of microbial retting. ICARE was launched in 2015 and initially covered two states, i.e. West Bengal and Assam. The coverage has been extended to the States of Bihar, Orissa, Andhra Pradesh and Meghalaya. ICARE currently covers a total area of 70 328 ha of jute, involving the participation of more than 103 000 farmers (Appendix 5). The programme

29. In response to the ICARE actions, the jute sector has registered an increase in yields of 10 percent, reaching 3 to 3.25 tonnes per hectare. The jute fibre quality has also increased by 1 to 1.5 grades, attracting higher prices and increasing farmers' income to approximately USD 30 per bigha (the traditional unit of measurement of land in some states of India, Bangladesh and Nepal).

### **B. CHALLENGES AND CONSTRAINTS OF THE AGRO-TEXTILE BASED DIVERSIFICATION "PATH"**

30. Despite such positive results, the jute industry faces significant challenges and constraints in its daily work. The ICARE initiatives face major challenges, including: (1) wide availability of non-certified jute seeds in market that are being largely used by the farmers; (2) the low availability of appropriate machineries during pre/post-harvest period; (3) inadequate and shrinking water bodies and poor value chain in supply of microbial retting technology; and (4) the lack of infrastructure facilities including human resources for monitoring the programme. Such challenges constrain any ambition towards diversification of the jute industry, including the geo-textile-based innovations.

31. Specific actions are being taken to address these constraints through a participatory approach involving all stakeholders including jute growers, MSMEs and the jute mill sector (Appendix 6 and 7).

## **V. WAY FORWARD AND RECOMMENDATIONS**

32. India has great potential to diversify its jute industry beyond the traditional use of sacking. Greater emphasis should be given to research and development. While rectifying the policy framework, which should be supportive to the diversification process, the jute industry requires a

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<sup>2</sup> Appendix 4 provides a comprehensive overview of stakeholders and Governmental actions in the jute sector.

mixture of new production technologies and modern machinery, supported by holistic workers' welfare measures and entrepreneurship development schemes<sup>3</sup>.

33. While design interventions and skill development programmes for jute-diversified products are being promoted, there is a need to tackle bottlenecks related to accessing finance for SMEs and strengthening farmers' market linkages.

34. The vision should therefore further focus on strengthening research and development towards improving the quality of raw jute, the production of value added jute goods and increasing shares in the international market by manufacturing "eco-friendly, greener products".

35. Scaling up best practices and strengthening stakeholders' capacity towards the development of jute agro-textile products should be mainstreamed as cross cutting investments during the diversification process.

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<sup>3</sup> Appendix 8 provides more details on the focal areas for the recommended policy action

## APPENDICES

### Appendix 1: Jute industry over the years

	1948	1975	1985	1997	2013	2016
No. of Mills	80	68	69	73	84	97
No. of Looms	69,000	44,594	44,064	53,057	49,526	49,809
No. of Spindles (in million)	2.45	0.62	0.61	0.64	0.75	0.75
Annual Production (thousand metric tonnes)	306	420	560	960	1,620	1,656

Source: Office of the Jute Commissioner, Ministry of Textiles, Govt. of India

### Appendix 2: An overview of micro, small and medium jute enterprises

	1999-00	2001-02	2004-05	2008-09	2012-13
Units	696	1,043 (+49.9%)	1,320 (+26.6%)	1,904 (+44.2%)	2,423 (+27.3%)
Jobs	63,409	163,706 (158.2%)	183,199 (+11.9%)	183,000 (-0.1%)	199,030 (+8.8%)
Turnover, USD million	167	202 (+21.0%)	298 (+47.5%)	349 (+17.1%)	480 (+37.5%)
Export, USD million	23	28 (+21.7%)	58 (+107.1%)	54 (-6.9%)	67 (24.1%)

Source: Office of the Jute Commissioner, Ministry of Textiles, Govt. of India

Note: Parenthesis show growth rate values

**Appendix 3: Increment of CBR value of 10 rural roads in India and Bangladesh using jute-agro textiles**

<b>Name of the road</b>	<b>Increment of field CBR value</b>
India	
UT Road to Jorabari, Assam	3.20 to 4.40
Rampur Satra to Dumdumia, Assam	4.30 to 8.37
Chatumari to MDR 14, Orissa	2.50 to 3.37
Gehlawan Vill to PMGSY Road, Madhya Pradesh	2.30 to 2.95
Khairjhiti to Ghirghosa, Chhattisgarh	3.95 to 6.70
Bangladesh	
Turag-Rahitpur Bourvita Road	2.3 to 7.4
Circular Road at Savar Cantonment	1.9 to 3.5
Bancharampur Southpara, Brahmanbaria	2.4 to 5.7
Tezkhali-Titas Riverghat Road, Brahmanbaria	2.3 to 4.2
Noabanki Shamnagar Road, Satkhira	2.4 to 14.1

Source: National Jute Board (India); Jute Diversification Promotion Centre (Bangladesh).

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**Appendix 4: Overview of the stakeholder involved in the India jute market**

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**Government Organizations in the Sector**

- Office of the Jute Commissioner
- The National Jute Board
- Jute Advisory Board
- The Jute Corporation of India-1971

**Other Organizations in the Sector**

- Indian Jute Mills' Association
- Indian Jute Research Industries' Research Association
- Department of Jute and Fibre Technology (Institute of Jute Technology)
- Centre for Research in Jute and Allied Fibres, Ministry of Agriculture
- National Institute of Research in Jute and Allied Fibre Technology

**Other Organizations in the R&D Sector**

- Indian Council of Agricultural Research
- Central Research Institute of Jute and Allied Fibre
- National Institute of Research on Jute and Allied Fibre Technology
- The Department of Jute and Fibre Technology at Kolkata
- Indian Jute Industries' Research Association
- Ahmedabad Textile Research Association
- South Indian Textile Research Association
- Synthetic Art Silk Mills Research Association
- The National Test House
- Indian Jute Industries' Research Association
- The Jute Corporation of India

**Government Interventions**

- Jute Modernization Fund Scheme – 1985
  - Special Jute Development Fund – 1985
  - Jute Packing Materials Act – 1987
  - UN Development Program – Assisted National Jute Development Programme – 1992
  - Fibres and Handicrafts Programme of CCF-1 (Sub-Programme on Jute) – 2000
  - Jute Technology Mission – Mini Mission I, II, III & IV
  - Promotional Schemes - implemented by National Jute Board
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### Appendix 5: Jute-ICARE Project for the years 2015-2017

	<b>ICARE-I (2015)</b>	<b>ICARE-II (2016)</b>	<b>ICARE-III (2017)</b>
Land covered (Ha)	12,331	26,264 (+113.0%)	70,328 (+167.8%)
No. of farmers covered	21,548	41,616 (+93.1%)	103,122 (+147.8%)
Certified seed provided (in million tonnes)	64	160 (+150.0%)	500 (+212.5%)
Seed drill machine	350	700 (+100.0%)	1,200 (+71.4%)
Nail weeder machine	500	700 (+40.0%)	1,200 (+71.4%)
Fibre (use microbial retting, in million tonnes)	83	273 (+228.9%)	300* (+9.9%)

Source: National Jute Board.

Note: \* Estimated.

### Appendix 6: Challenges and constraints

#### Jute growers:

- Decline in area under jute cultivation over the years
- Non availability of certified seeds for jute cultivation resulting in low productivity and poor quality
- Inefficient post-harvest and fibre extraction methodologies
- No detailed one to one bonafied data of all Jute growers.

#### MSME sector:

- Non availability of quality jute raw materials : yarn, fabrics etc. for production of value added jute diversified products
- Fluctuation in price of jute raw materials
- Lack of design input in jute diversification
- Stiff competition from non-woven synthetic substitutes

#### Jute Mill / industry sector:

- Poor and average quality of raw jute and lack of standardization
- Fluctuation in price of raw jute
- Rising cost of production and competition from cheaper substitutes
- Lack of awareness on the Eco friendly natural fibre and branding among consumers
- Heavy dependence on government procurement

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**Appendix 7: Support policies**

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- Schemes for workers' health and sanitation in the Jute Sector
  - Incentive scheme for acquisition of plants and machinery
  - Common Facility Centre Scheme for empowerment of Women
  - Retail Outlet / Bulk supply of JDPs Scheme
  - Export Market Development Assistance Scheme
  - Jute Integrated Development Scheme
  - Jute Raw Material Bank Scheme
  - Design development through NID / NIFT
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**Appendix 8: Policy areas – Future Plan**

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- Research and Development
  - Modernization
  - Diversification
  - Promotion and marketing
  - Social and Environmental Compliance
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**Table 9: India's exports of major categories of Jute Products (crop year: 2016-17)**

<b>Product</b>	<b>Exported to - Country</b>	<b>Value (Rs. / million)</b>	<b>Share</b>
Hessian	1.USA	1,643.35	18
	2.The Netherlands	736.23	8
	3.Germany	666.08	7
	4.Côte d'Ivoire	544.77	6
	5.Saudi Arabia	443.73	5
	6.UK	384.17	4
	7.UAE	371.99	4
	8.Australia	365.17	4
	9.Egypt	351.61	4
	10.Canada	274.32	3
Sacking	1. Ghana	1,685.62	41
	2. Sudan	551.43	13
	3. Tanzania	200.59	5
	4. Vietnam	175.63	4
	5. Kenya	138.89	3
	6. Côte d'Ivoire	125.87	3
	7. Peru	125.08	3
	8. Mexico	113.95	3
	9. Guinea Bissau	90.85	2
	10. Mozambique	76.94	2
Yarn	1. Belgium	191.80	26
	2. Indonesia	166.23	23
	3. Saudi Arabia	72.05	10
	4. Turkey	40.97	6
	5. Egypt	35.98	5
	6. USA	26.71	4
	7. Lebanon	25.24	3
	8. UK	22.87	3



**Table 9: India's exports of major categories of Jute Products (crop year: 2016-17) (cont'd)**

<b>Product</b>	<b>Exported to - Country</b>	<b>Value (Rs. / million)</b>	<b>Share</b>
Yarn (cont'd)	9. Nigeria	14.92	2
	10. Morocco	14.07	2
Jute floor covering	1. USA	1,564.78	61
	2. Australia	204.66	8
	3. Germany	113.78	4
	4. UK	106.87	4
	5. China	78.25	3
	6. Sweden	76.31	3
	7. Spain	51.03	2
	8. France	49.48	2
	9. South Africa	46.88	2
	10. Italy	37.35	1
Jute Shopping Bags	1. UK	950.13	29
	2. USA	673.29	21
	3. The Netherlands	192.48	6
	4. France	147.81	5
	5. Australia	143.93	4
	6. Germany	145.64	4
	7. Saudi Arabia	125.91	4
	8. Italy	117.59	4
	9. Spain	107.38	3
	10. Canada	104.82	3

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Source: National Jute Board.