REPORT
ON

EMPLOYMENT CREATION IN TEXTILES AND GARMENT MANUFACTURING SECTOR IN KERALA

KERALA STATE PLANNING BOARD

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RIAB

EMPLOYMENT CREATION IN TEXTILES AND GARMENT MANUFACTURING SECTOR IN KERALA

Report $$

Kerala State Planning Board

Conducted by
Public Sector Restructuring and Internal Audit Board (RIAB), Department of Industries, Government of Kerala, Trivandrum

$$ - Report has been evolved based on the stakeholders' meetings conducted at different locations, industry visits, institutional visits (South Indian Textile Research Association [SITRA], Southern India Mills Association [SIMA], Tirupur Export Association [TEA] etc.) and also after collecting opinions from various experts by RIAB in association with State Planning Board and subsequent discussions with the officials of RIAB and State Planning Board.

November 2019

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CHAPTER I

EXECUTIVE SUMMARY

As part of the plan formulation process, State Planning Board conducts various studies, research and surveys through established research institutions. Based on this, administrative sanction was given by State Planning Board vide order no. 2602/2017/EVN/SPB dated 31MAR'18 to conduct evaluation study on "Employment Creation in Textiles and Garment Manufacturing sector in Kerala" and RIAB was entrusted to conduct the study.

As an anonymous adage says "Your future is created by what you do today, not tomorrow", the future path of Textile Industry of Kerala has to be envisioned now to take it forward as it is in the point of inflection. As the lag indicators of macro economy of India were not good for the last few years for the industry mainly due to Demonitisation and GST implementation, the lead indicators of the same gives the glimmer of hope for the strategic thinkers of the industry to be optimistic, especially for the entrepreneurs to bet on the front end of the value chain like garments, wet-processing, technical textiles etc.

Kerala, God's Own Country, has better educated, enlightened and knowledgeable workforce when compared to other states, is in the driver seat when it comes to the availability of better manpower for the front-end of the value chain of the industry. As the man-day wage for a worker is an important criterion for the attraction and non-attrition of workforce for the industry, it is pertinent for the state to concentrate in the sectors like Garments, which is the front-end instead of back-end sectors like Spinning and Conventional Weaving, for capacity building.

In addition, unlike other verticals of the Textile Industry, which are Market-driven, Garment sector is Design-driven. The prospective growth is estimated to be exponential, as the upper middle class customer uses atleast 4-5 kinds of wear viz. exercise / sports wear, formal wear, casual wear, party wear and night wear in a day as against 1-2 kinds of wear used by yesteryear's customers.

As per Annual survey of Industries 2016-17, states like Tamilnadu and Karnataka where the Garment factories are more, are paying an annual wages with benefits worth Rs.1.70 lakhs compared to Kerala where there are few garment companies that pay Rs.1.60 lakhs annually as wages and benefits. As the work force in Kerala is educated and knowledgeable, the Man-day wages has to be increased by linking it with productivity. In addition, the work methods involved in Textile Industry from Spinning to Garmenting are better suited for women workers compared to men. In Kerala, the female population outscores the male population and this augurs well for the state for the capacity addition in Garment sector, where woman can be empowered either as an entrepreneur or as a worker.

As it is 'Advantage India' with respect to the future of Textile Industry, it is also 'Advantage Kerala' for the industry.

After having done deeper and wider analysis based on the stakeholders' meetings conducted at different locations, industry visits, institutional visits to SITRA, SIMA, TEA etc. and also after collecting opinions from various experts in association with State Planning Board and subsequent discussions with the officials of RIAB and State Planning Board, this study report is proposing the following:

- Positively skewed capacity building at the front end of the value chain (Hi-Tech Weaving, Garmenting)

- To hand-hold the Spinning, Handloom & Powerloom sectors through value addition measures for the balanced growth of the Industry in near future, keeping in mind the inclusive growth at a maximum possible level.

In order to increase the loomage of Hi-Tech weaving, it is proposed that the participation of private players to be encouraged by the Government. While doing so, the Government should see that a given percentage of free school uniforms and other uniforms as required by the departments of the Government have to be reserved for the production within the State on looms owned by public and Private players.

In Garments Sector, it is proposed that the Government should encourage the entrepreneurial development through start-ups by supporting them through Incubation centres. The excess land and buildings owned by the state PSUs can be made use of by giving the same on lease to the prospective investors. In order to encourage the exports of garments, incentive scheme can also be introduced, say, tax benefits for a period of 5 years.

Promotion of Garments sector has to be taken as a mission at District level by making General Manager of District Industries Centre as the responsible officer. By doing so, each district should have an initial targeted employment generation of 7000, and in total the state with 14 districts, should be aiming for an employment generation of 100,000, in the Garments sector alone.

If so, the Textile Industry of the state would be having a direct employment of about 100,000 and an indirect employment of about 4,00,000.

Accordingly, the following proposals are suggested:

A. Spinning	Investment (in lakhs)
Autoconers	3,600
Repairs and Maintenance	1,500
Combers	650
Testing	1,200
Total (A)	**6,950**
B. Weaving	
Khadi-Capacity addition	350
Handloom	25
Powerloom – conventional looms to unconventional looms	5,000
Common facility centre for sizing and warping	5,000
Powerloom - study	10
Total (B)	**10,385**
Promotional Expenses	
Khadi campaign	200
Promotion of GI tag-Handloom	250
Total (C)	**450**
Garments	
Proposal for entrepreneurship Development @ Rs.10 lakhs /Centre	400
Incubation centres	500
Common Facility Centres	2,000
Total (C)	**2,900**
GRAND TOTAL	**20,685**

These proposals had been put forward after careful thought and insightfulness. It is also recommended that these capacity building should be implemented in a span of 5 years. If these capacity building projects get implemented within the time span as suggested, the garment industry alone will have a direct total workforce of not less than 1,00,000, which will progress every year.

CHAPTER II

PREAMBLE

As part of the plan formulation process, State Planning Board conducts various studies, research and surveys through established research institutions. Based on this, administrative sanction was given by State Planning Board vide order no. 2602/2017/EVN/SPB dated 31MAR'18 to conduct evaluation study on "Employment Creation in Textiles and Garment Manufacturing sector in Kerala" and RIAB was entrusted to conduct the study.

AIM OF THE STUDY

The aim of the study is to examine and propose an action agenda for the state for the creation of employment in the textile and garment sectors.

OBJECTIVE OF THE STUDY

1. To examine best course for revival for each textile unit in the public or cooperative sectors Kerala. After analyzing the features and advantages of these units, the study will propose specific revival packages (including the nature of products and nature of technology) for each of these units.
2. To make specific proposals on how to make the best use of the assets (including land) under the control of textile mills in the public and cooperative sectors in Kerala.
3. To make proposals for the revival of handloom and powerloom sectors in Kerala
4. To examine how to create opportunities for the private sector in the garment and textiles sectors in Kerala. It will also give proposals on the nature of

linkages between private sector units (mainly in the garment sector) and public and cooperative sectors.

RIAB has done extensive consultations and decided on the modalities for the study and also to obtained inputs from various sources who are in textiles & Garments, support agencies etc.

As an outcome, the following workshops and field visits were conducted:

- The **first meeting was held on 28 April 2018 at Government Guest House, Aluva** with participation of various stakeholders in the textile sector including officials from State Planning Board and RIAB. Officials from State Planning Board who attended the meeting include:
  a) Shri.Jayan Jose Thomas, Member, State Planning Board
  b) Shri.V. Namasivayam, Adviser to the State Planning Board
  c) Shri.Ajit Mathai, Advisor to Kerala State Government on the revival of the coir sector
  d) Shri.N. R. Joy, Chief Industry and Infrastructure Division, State Planning Board
  e) Ms. Deepa Chandran, Assistant Director, State Planning Board

  The following persons participated over and above the officials from State Planning Board:

  1. Shri. P. Nandakumar, Chairman, Expert Committee (Textiles)
  2. Dr. P. K. Unnikrishnan, Vice President (HR), GTN Textiles,
  3. Shri. K. V. John, General Manager, Precot Unit
  4. Prof. Amit Basole, Azim Premji University
  5. Shri. M. Sureshan, (Saresh Textiles, Ferro Rolls & Melts and Govt. Contractor), Member: Labour and Skills (E) Department, Govt. of Kerala
  6. Shri.Dony Dominic, Chief Financial Officer & Director, Kitex Ltd.

7. Shri.Dijil Ganesh, Payyannur FIRKA Gramodaya Khadi Sangham.
8. Shri. J. Rataratnam, Textile Consultant
9. Shri. Johnson Joseph, Chief Executive Officer, Venus Garments International
10. Dr. M. P. Sukumaran Nair, Chairman, RIAB
11. Shri.S.Suresh, Secretary, RIAB
12. Shri.M. Ganesh, MD, KSTC
13. Shri.M.K. Salim MD, Texfed & MCSM
14. Shri.P. S. Sreekumar, MD, ACSM & TCSM
15. Shri.C R Ramesh, MD, CCSM & Malcotex
16. Shri. K. Muralikumar, Marketing Manager, Hantex
17. Shri. Baburaj, Marketing Manager, Hanveev
18. Shri. K.P Muhammed Sherif, Malabar Spinning and Weaving Mills
19. Shri. Rajasekhar B, Prabhuram Mills

The following suggestions were put forward:

- To have similar meetings with more participation from the various stakeholders of the industry including representative from garments and lady entrepreneurs.
- To visit the private sector spinning mills, establishments in handloom, power loom, societies, garment making units, export units, etc.
- To formulate a textile Policy for the State.
- To explore the possibilities of the integration of various sectors.
- To establish a Kerala Brand with adequate quality and to explore the market potential of the state.

- Officials from State Planning Board & RIAB visited KITEX Garments Ltd (Export unit), GTN Textiles and Komalapuram Spinning & Weaving Mills on 26 June 2018.

- One-day workshop was conducted **on 27 June 2018 at Government Guest House Ernakulam** and several textile industrial stake holders and officials from State Planning Board and RIAB participated in the discussion. The following personalities attended the workshop:

1. Dr. K Rajendra Nair IAS, Ex-Textile Commissioner & Secretary Textiles GoI.
2. Mr. Jayan Jose Thomas, Member, State Planning Board
3. Mr. V. Namasivayam, Advisor to VC, Planning Board
4. Mr. Ajit Mathai, Advisor to Kerala State Government on the revival of the coir sector
5. Mr. N. R. Joy, Chief Industry and Infrastructure Division, State Planning Board
6. Prof. Amit Basole, Azim Premji University
7. Dr. K. Selvaraju, Secretary General, SIMA
8. Mr. E. A. Balan, Secretary, FIRKA Gramodaya Khadi Sangham
9. Mr. M. Beemarao, Assistant Director(Khadi), KVIC, Trivandrum
10. Mr. M. Sureshan, Suresh Textiles, Kannur
11. Mr. P. Lakshmana Kanth, Senior Faculty, Institute of Fashion Technology Kerala, Kollam
12. Mr. G. Ramesh Babu, Joint Director, NIFT, Kannur
13. Mr. John K. V., General Manager, Precot Meridian
14. Mr. Dony Dominic, CFO and Director Finance, Kitex Ltd
15. Mr. Johnson Joseph, CEO, Venus Garments International
16. Mr. P. Nandakumar, Chairman, Expert Committee
17. Mr. K. T. Jayarajan, Assistant Director, Textiles Committee, Kannur
18. Ms. K. K Chandini, Deputy Director, KVIB
19. Ms. Mariamma Joseph, Factory Superintendent, H. O. Hantex
20. Mr. M. Ganesh, MD, KSTC
21. Mr. M. K. Salim, Managing Director, TEXFED
22. Dr. M. P. Sukumaran Nair, Chairman, RIAB
23. Shri.S.Suresh, Secretary, RIAB
24. Ms. Deepa Chandran, Assistant Director, State Planning Board
25. Ms. K. K Chandini, Deputy Director, KVIB
26. Ms. Mariamma Joseph, Factory Superintended, H. O. Hantex
27. Mr. M. Ganesh, MD, KSTC
28. Mr. M. K. Salim, Managing Director, TEXFED

- On **21 January 2019, One-day workshop was held at Dinesh, Auditorium, Kannur** with participation from all sections of the textile industry. The Hon'ble Minister for Industries & Commerce, Shri.E.P.Jayarajan inaugurated the workshop and delivered opening remarks. The potential of employment in textiles and garment sector was emphasised by the Hon'ble Minister and suggested to give more thrust on these sectors.

  Around 100 personalities involving Officials from State Planning Board, major textile exporters, major institutions like NIFT, IIHT, textile manufacturers, officials from textile industry in and around Kannur and representatives of major cooperative societies in Kannur attended the workshop. The following eminent personalities participated in the workshop:

  - Mr. Jayan Jose Thomas, Member, State Planning Board
  - Mr. V. Namasivayam, Advisor to VC, Planning Board
  - Shri.N.Sasidharan Nair, Chairman, RIAB
  - Shri.K.G.Vijayakumaran Nair, Secretary, RIAB
  - Shri.K.Sudheer, Director of Handloom & Textiles
  - Dr.Elangovan N, Director, NIFT
  - Shri.N.Sreedhanian, Executive Director, IIHT
  - Mr. K. T. Jayarajan, Assistant Director, Textiles Committee, Kannur
  - Shri.S.Krishnakumar, Market Research Officer, Textiles Committee

  Presentations were done by the following personalities:

  - Employment Opportunities in Spinning, Weaving & nonwoven by Shri.M.Ganesh, MD, KSTC, Sitaram & TSM
  - Employment Opportunities in Handloom sector including wet processing by Shri.N.Sreedhanian, Executive Director, IIHT

- Employment opportunities in Garment Manufacturing Sector including high fashion and high value by Shri.Abhilash Balan T, Assistant professor, NIFT
- Employment Opportunities in Handloom Sector with GI tag by Shri.S.Krishnakumar, Market Research Officer, Textiles Committee
- Opportunities in Textile Export by Shri.C.Jayachandran, Mascot Industries

Further to the above workshop and field visits, the major observations evolved are:

- Spinning sector has no further scope in Kerala, but there is scope for Weaving sector in the State
- The existing processing facilities at Kannur is under utilised
- New designs to be developed for High value garments for specific occasions/functions
- High value knit garments, cotton kids wear etc. to be given more emphasis
- Products with GI tags need to be redesigned, Research and Development to be conducted for developing specific products.
- Online marketing of handloom products to be strengthened.
- For development of new designs in the handloom sector, support from textile institutions like NIFT.

Thereafter an open discussion was held and various stakeholders expressed their views.

- After the workshop, officials from State Planning Board and RIAB visited The Cannanore Co-operative Spinning Mills Ltd. and Pinarayi Hi-tech Weaving mill. On 22/01/2019, the team visited NIFT, Kalliasseri Handloom Co-operative Society, Power loom, Eachur and Dinesh Textiles.

Based on the interactions with the stakeholders during workshops and the inputs received during the field visits, an initial draft presentation was made to SPB on 13MAY'19 and since the scope of the study was so wide and deep, RIAB had requested for extension of time, from the initial tenure of 10 months.

Accordingly, RIAB officials visited SITRA, Coimbatore on 14JUN'19 and held wide ranging discussions with the following members, with a special focus on modern developments in Textile Industry:

- Dr. Prakash Vasudevan, DIRECTOR (dir@sitra.org.in)
- Mr. Jayaraman, Head – SPINNING (djr@sitra.org.in)
- Mr. J Srinivasan, L&C Division (jsv@sitra.org.in)

On 15JUN'19, RIAB officials visited TEA, Tirupur and had an elaborate and deeper discussions with its President, Mr. Raja M Shanmugham (president@tea-india.org) with a special focus on the successful business model of Tirupur's Garments sector.

This report has been prepared based on:

- our knowledge about the Industry and the exposure about the market dynamics
- the opinions sought from the industry experts
- our experience of the industry and the views of the industrialists
- the past history of the industry (secondary data research)
- the interaction with the stake holders.

CHAPTER III

TEXTILE INDUSTRY - NATIONAL SCENARIO

India’s textiles sector is one of the oldest industries in Indian economy dating back several centuries. India's overall textile exports during FY 2017-18 stood at US$ 39.2 billion (Rs.282014 crores) in FY18 and is expected to increase to US$ 82.00 billion (Rs..589928 crores) by 2021 from US$ 31.65 billion (Rs..227698 crores) in FY 2019 (till January 2019).

The Indian textiles industry is extremely varied, with the hand-spun and hand-woven textiles sectors at one end of the spectrum, while the capital intensive sophisticated mills sector at the other end of the spectrum. The decentralised power looms/ hosiery and knitting sector form the largest component of the textiles sector. The close linkage of the textile industry to agriculture (for raw materials such as cotton) and the ancient culture and traditions of the country in terms of textiles make the Indian textiles sector unique in comparison to the industries of other countries. The Indian textile industry has the capacity to produce a wide variety of products suitable to different market segments, both within India and across the world.

The Indian textiles industry accounts for about 24% of the world's spindle capacity and 8% of global rotor capacity. It has the highest hand loom capacity with 61% of the world's market share. However, powerloom and new generation looms comprise only 2% of the international market share.

Market Size

The Indian textiles industry, currently estimated at around US$ 150 billion (Rs.1079137 crores), is expected to reach US$ 250 billion (Rs.1798561 crores) by 2019. India's textiles industry contributed seven per cent of the industry output (in value terms) of India in 2017-18. It contributed two per cent to the GDP of India and employs more than 45 million people in 2017-18, which is about 3.5% of the total population of the country. The sector contributed 15 per cent to the export earnings of the country in 2017-18.

The production of raw cotton in India is estimated to have reached 36.1 million bales in FY19, which is about 35% of world cotton production.

Investment

The textiles sector has witnessed a spurt in investment during the last five years. The industry (including dyed and printed) attracted Foreign Direct Investment (FDI) worth US$ 3.09 billion (Rs.22230 crores) during April 2000 to December 2018.

Some of the major investments in the Indian textiles industry are as follows:

- In May 2018, textiles sector recorded investments worth Rs. 27,000 crore (US$ 4.19 billion) since June 2017.

The Government of India announced a Special Package for Textile Industry to boost exports by US$ 31 billion, create one crore additional job opportunities and attract investments worth Rs.800.00 billion (US$ 11.93 billion) during 2018-2020. As of August 2018, it generated additional investments worth Rs.253.45 billion (US$ 3.78 billion) and exports worth Rs.57.28 billion (US$ 854.42 million), which is mostly in garments & made ups.

Government Initiatives

Government of India has come up with a number of export promotion policies for the textiles sector. It has also allowed 100 per cent FDI in the Indian textiles sector under the automatic route.

Initiatives taken by Government of India are:

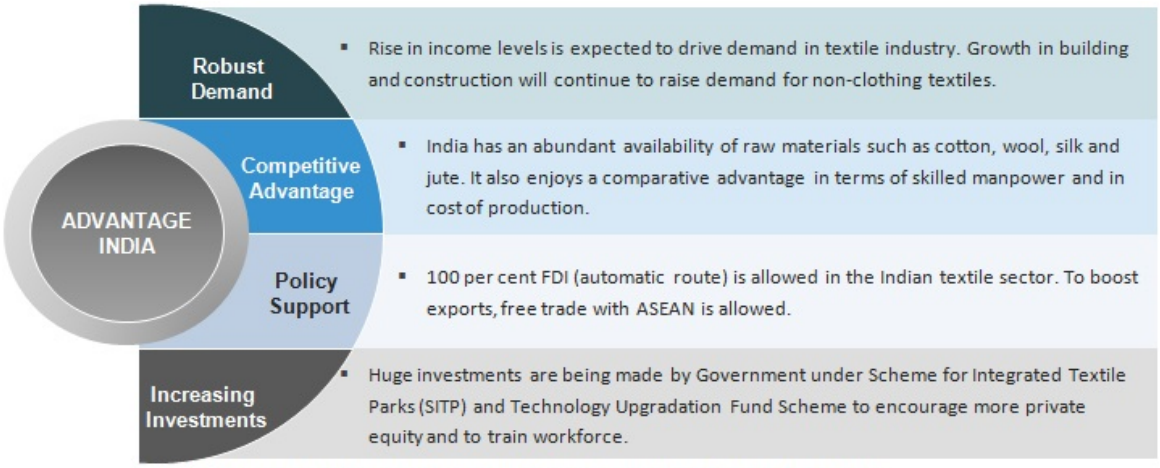
- The Directorate General of Foreign Trade (DGFT) has revised rates for incentives under the Merchandise Exports from India Scheme (MEIS) for two subsectors of Textiles Industry - Readymade garments and Made ups - from 2 per cent to 4 per cent.
- As of August 2018, the Government of India has increased the basic custom duty to 20 per cent from 10 per cent on 501 textile products, to boost Make in India and indigenous production.
- The Government of India announced a Special Package to boost exports by US$ 31 billion, create one crore job opportunity and attract investments worth Rs.80,000 crore (US$ 11.93 billion) during 2018-2020. As of August 2018 it generated additional investments worth Rs.25,345 crore (US$ 3.78 billion) and exports worth Rs. 57.28 billion (US$ 854.42 million).
- The Government of India has taken several measures including Amended Technology Up- gradation Fund Scheme (A-TUFS). The scheme is estimated to create employment for 35 lakh people and enable investments worth Rs.95,000 crore (US$ 14.17 billion) by 2022.
- Integrated Wool Development Programme (IWDP) approved by Government of India to provide support to the wool sector starting from wool rearer to end consumer which aims to enhance the quality and increase the production during 2017-18 and 2019-20.
- The Cabinet Committee on Economic Affairs (CCEA), Government of India has approved a new skill development scheme named 'Scheme for Capacity Building in Textile Sector (SCBTS)' with an outlay of Rs. 1,300 crore (US$ 202.9 million) from 2017-18 to 2019-20.

Road Ahead

The future for the Indian textile industry looks promising, buoyed by both strong domestic consumption as well as export demand. With consumerism and disposable income on the rise, the retail sector has experienced a rapid growth in the past decade with the entry of several international players like Marks & Spencer, Guess and Next into the Indian market.

High economic growth has resulted in higher disposable income. This has led to rise in demand for products creating a huge domestic market.

Advantage India?



Note: SITP - Scheme for Integrated Textile Park, ASEAN - Association of Southeast Asian Nations

India is now a fast emerging market inching to reach half a billion middle income population by 2030. All these factors are good for the Indian textile industry in a long run. Even though the global economic crisis seems to be worsening day-by-day, as long as economies are emerging and growing in South and South East Asia, textile industry is here to grow provided it takes competition and innovation seriously.

Where Does the Indian Textile Industry Stand Now?

A general impression is that the industry is in a pinch. Why so? These are the reasons:

1. Global recession
2. Less export orders due to reductions in inventories by global retail giants like Wal-Mart
3. Volatility in the price of raw materials like cotton
4. Infrastructure bottlenecks such as power
5. Traditional entrepreneurial mind of the mill owners in absorbing emerging technological trends

In this global financial recessive situation, what should the Indian textile industry do? In the times of adversity, it is an immediate task for all stake holders to pause for a moment and take stock of the difficulties and chart plans for sustainability and growth of the Indian textile industry.

As the saying goes in the financial sector, it is not advisable to put all eggs in one basket. This is what happened somewhat in the case of the Indian textile industry. With the opening of world markets and the abolition of textile quotas since 2005, there came a negative situation as well. But, hindsight is always 20-20. Indian textile industry should have focused on all major sectors right from fibre to fashion and planned for an organized growth across the supply chain so as to compete with China and even countries such as Pakistan, Vietnam and Thailand. Instead, the industry had put majority of its stock in the spinning sector.

This is clearly evident in the utilization of Technology Upgradation Fund Scheme (TUFS) effectively by the spinning sector. Although it is a positive outcome, the industry turned a blind eye on value-adding sectors such as weaving and finishing. Indian powerloom sector, which enables value-addition is a highly unorganized industry and needs major Upgradation. Not only India does not have world quality

indigenous shuttle less looms, but also investments are not adequate to cope with the quality and quantity to cater to the export market. The latest trend in the Spinning Sector is that its capacity is slowly migrating to neighbouring countries like Bangladesh, Srilanka and also to African countries.

Technical textiles sector is still in its infancy and a tangible growth will be highly visible by 2035 when the growth in this sector will be exponential. Is there a panacea to the complexities surrounding the India Textile Industry?

India is rich in traditional workers adept at value-adding tasks, which could give Indian companies significant margin advantage. However, India's inflexible labor laws have been a hindrance to investments in this segment. Unlike in home textiles, garment capacities are highly fragmented and leading Indian textile companies have been slow to ramp up their apparel capacities, despite strong order flows from overseas buyers who are trying to diversify out of China.

SNAP SHOT OF THE INDUSTRY

- **Supply**

  Despite some pick-up in demand from both global and domestic markets, most new capacities in the apparel and home textile segments are not operating at full capacities.

- **Demand**

  High for premium and branded products due to increasing per capita disposable income.

- **Barriers to entry**

  Superior technology, skilled and unskilled labour, distribution network, access to global customers.

- **Bargaining power of suppliers**

  Because of oversupply in the unorganised market like that of denim, suppliers have little bargaining power. However, premium products and branded players continue to garner higher margins.

- **Bargaining power of customers**

  Domestic customers - Low for premium and branded product segments. Global customers - High due to presence of alternate low-cost sourcing destinations.

- **Competition**

  High. Very fragmented industry. Competition from other low cost producing nations is likely to intensify.

Rising per capita income, favourable demographics and a shift in preference to branded products to boost demand. Things have changed and people are improving their life in different ways. India is a place to eye on and certainly the Indian textile sector will have its share in the growth trajectory.

CHAPTER IV

TEXTILE INDUSTRY - KERALA SCENARIO

KERALA'S ECONOMY 2018

Kerala's Gross State Domestic Product (GSDP) grew at 7.18 per cent in 2017-18 in constant (2011-12) prices, which is higher than the 6.22 per cent growth recorded in 2016-17. At current prices, the growth rates of GSDP in 2017-18 and 2016-17 were 11.42 per cent and 9.67 per cent respectively. The growth rates of Gross Value Added (GSVA) at basic prices in constant (2011-12) prices were 5.94 per cent and 4.67 per cent in 2017-18 and 2016-17 respectively. The GSVA growth rate in current prices was 10.37 per cent in 2017-18 and 8.62 per cent in 2016-17. Per capita GSDP in real terms grew at 6.65 per cent in 2017-18 as against 5.70 per cent in 2016-17.

In 2017-18, the contribution from primary, secondary, and tertiary sectors to the GSVA at constant prices (2011-12) was 10.85 per cent, 27.40 per cent and 61.75 per cent respectively. At current prices, the primary, secondary, and tertiary sectors contributed 13.20 per cent, 24.24 per cent and 62.56 per cent respectively to the GSVA during this period.

The GSDP in real terms for agriculture and allied activities (livestock, forestry and logging and fishing and aquaculture) registered a growth rate of 3.64 per cent in 2017-18. This is a substantial improvement from 0.02 per cent in 2014-15, (-)5.10 per cent in 2015-16 and 0.08 per cent in 2016-17. The GSDP growth in the manufacturing sector was 9.2 per cent in real terms in 2017-18. The corresponding figure was 7.8 per cent in 2016-17. The GSDP of secondary sector as a whole rose to. 6.52 per cent in 2017-18 from 4.81 per cent in 2016-17. The tertiary sector GSDP recorded a growth rate of 5.84 per cent in 2017-18; the corresponding figure in 2016-17 was 5 per cent.

Kerala has been ahead of other Indian States in achieving demographic and human development indicators. In achievement of Sustainable Development Goals (SDGs 2018) by the States in India as computed by the NITI Aayog, Kerala ranks first along with Himachal Pradesh, with a score of 69 against national average of 57.

The Textile Industry, in general, which provides one of the basic necessities of life, also contributes greatly to the industrial output, employment generation and export earnings of the country. However, in Kerala, there is an impending sickness in this industry threatening the very existence of many of the textile mills, due to umpteen reasons like the low level of technological/machinery conditions, below par productivity indices of machine and labour, spiralling cotton (raw material) prices, supply demand mismatch in the finished product market, the resultant low price realization, and so on.

Textile industry in the State is not a profitable one because of the following reasons:

- Locational disadvantage for both raw materials and finished goods.
- Increased transportation costs
- Increased time to market
- Nature of work – Repetition and eight hours monotonous and mundane work.
- Dusty and noisy atmosphere
- Three shift timings
- Not allowing ladies to work in night shift
- Increased absenteeism
- Attrition of workers inspite of giving relatively higher manday wages compared to other states
- Different Work Culture compared to other States

Textile Industry in Kerala is wide spread into spinning mills, weaving mills, garment units, dyeing and processing units etc. in both private and Govt. sectors of central and State.

A. SPINNING

Kerala has 7,03,881 spindle capacity in PSU – Central and State / Co-Operative and Private sectors which is about 1.38% of the Nation's capacity. There are 17 spinning mills functioning in the public/co-operative sector under the State Government with a spindle capacity of 2,87,993 spindles, and 680 rotors, which give direct employment to more than 3500 workers and in-direct employment to about 10000 workers.

The Public Sector Textile mills and the Co-Operative mills are spread across the length of the state covering nine districts out of fourteen district. These mills also bring about Rs.2,500 lakh as sales tax to the state's exchequer apart from paying about Rs.15,000 lakh to state's electricity board towards energy consumption.

In addition, M/s. National Textile Corporation Limited, Central Public Sector Mill has the following five mills in the state with a total spindle capacity of 1,99,888 employing about 1938 workers:

1. Vijayamohini Mills, Trivandrum (25056 spindles)
2. Alagappa Textiles, Trissur (45296 spindles)
3. Kerala Lakshmi Mills, Trissur (42944 spindles)
4. Cannanore Spinning & Weaving Mills (Units A & B), Kannur (58032 spindles)
5. Cannanore Spinning & Weaving Mills, Mahe (28560 spindles)

Private Spinning Mills players, M/s. GTN limited (Patodia Group) in Aluva (66,000 spindles) and Palakkad (60,000 spindles) and M/s. Precot Group in Kanjikode (65,000 spindles) and Vazhayar (25,000 spindles), together have 2,16,000 spindles, employing about 2200 workers.

So, in total, the current man-power strength of the Spinning mills is as follows

Sl.No	Nature of OwneRs.hip	Spindle Capacity	Man-Power strength
1	State PSU / Co-operative sector	2,87,993	3501
2	Central Public sector	1,99,888	1938
3	Private players	2,16,000	2200
	GRAND TOTAL	**7,03,881**	**7639**

B. WEAVING

1. KHADI

Kerala Khadi and Village Industries Board is vested with the responsibility of organizing and promoting Khadi and Village Industries in the State.

There are around 232 spinning centres and 154 weaving centres under the direct control of the Board and around 6000 artisans engaged in khadi production. There are also 14 Institutions financed by the Board and 14 Institutions directly aided by the Khadi and Village Industries Commission engaged in Khadi activities.

Totally about 12000 artisans are engaged in khadi production activities of which 11500 are women in Rural Sector.

2. HANDLOOMS

Kerala has 14 districts stretched from Thiruvananthapuram in the southern end to Kasargod in the northern end. Even though the handloom industry is spread in all the districts of the state, it is concentrated in certain important clusters. The southern Kerala or the Travancore region is famous for its superfine cotton products, like Sarees, Dhothies and 'Set mundu' etc., the middle part of Kerala, the Cochin region is also engaged with such products. But while going to the northern belt of Kerala, also called Malabar region, the main production is of coarser varieties like furnishing materials, bed-spreads, towels etc. The common products in all the clusters are 'Thorthu' (Bathing towel) and Lungies. The major handloom clusters of Kerala are Balaramapuram/ Thiruvananthapuram of the Travancore region, Koothampalli and Chendamangalam of the Cochin region and Kannur, Kasargod and Kozhikode of the Malabar region.

3. POWERLOOMS

Kerala has about conventional 550 powerlooms in five co-operative societies spread across the state from Neyyattinkara to Wayanad and 66 unconventional powerlooms under Kerala State Textile Corporation Limited. By including the private players and unorganized sector, the total number of looms would be about 1100.

4. PROCESSING

Kerala was having big players in Wet processing like

- Sitaram Textiles Limited, a pioneer in Uniform Cloths Dyeing, Trissur
- Parvathy Mills, a unit of National Textile Corporation Limited, Kollam which was famous in Apparel Dyed fabric - ENTYCE
- Common Wealth Handloom Weaving Factory (COMTRUST), Kozhikode which was a leading supplier to British Airways Upholstery cloth

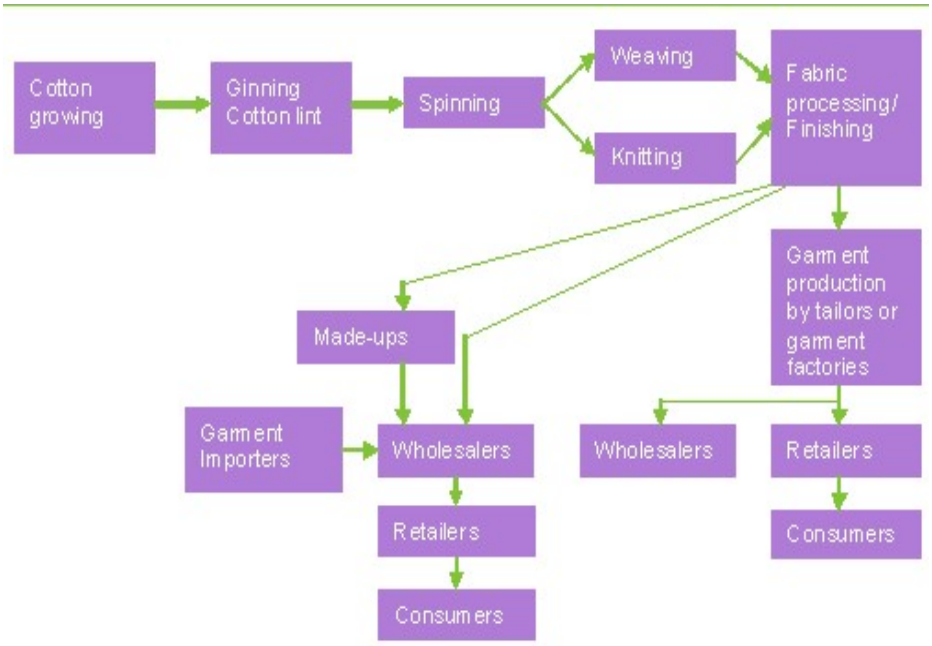
- Chakolas Spinning & Weaving Mills Private Ltd, Ernakulam, a pioneer in bleached mull cloth.

But due to the absence of timely absorption of technology, they could not sustain their operations and subsequently got closed.

C. GARMENTS

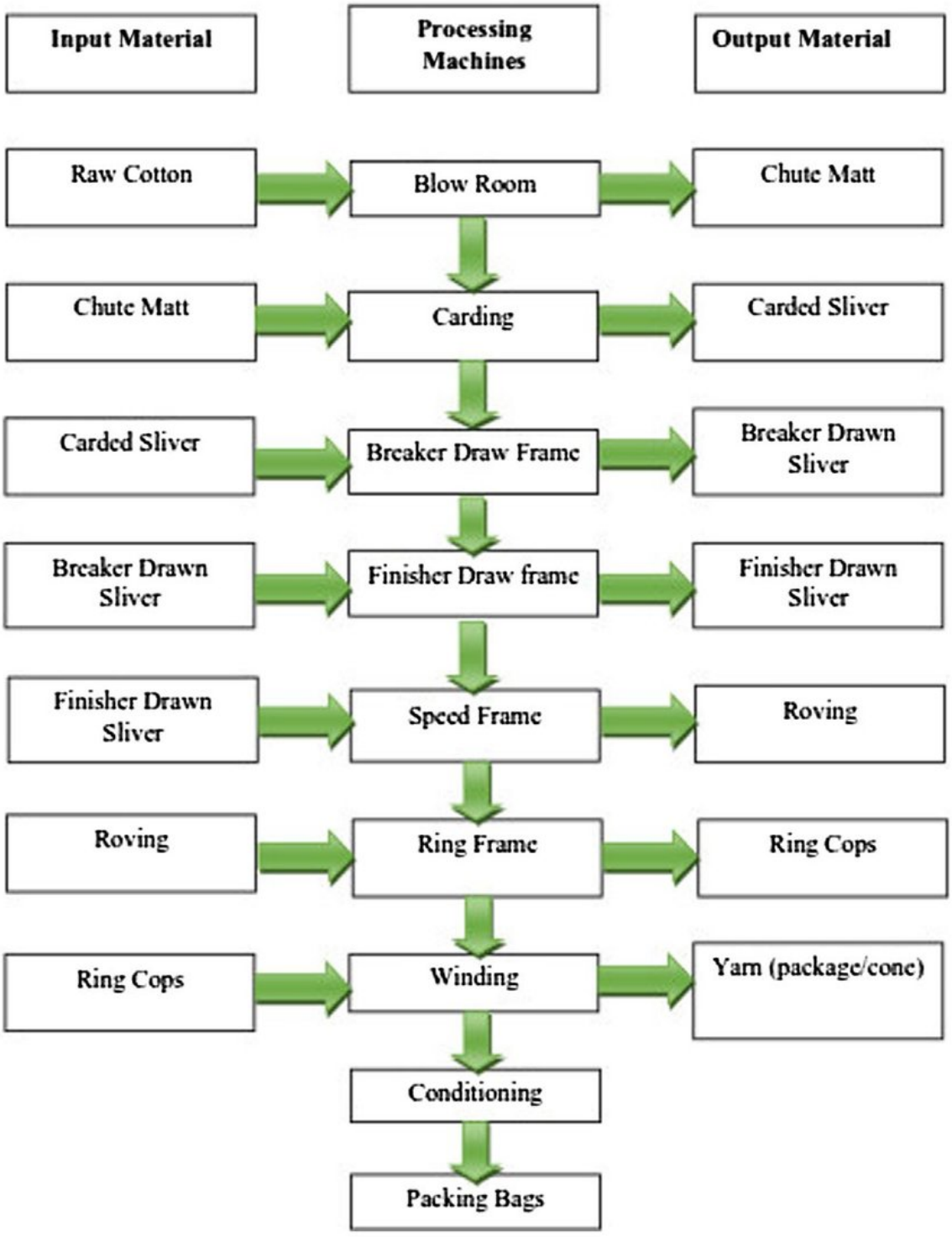
Garments sector is the only sector in the Textiles value chain that employs about high manpower even adopting the latest technology. Moreover, this sector operates only in day shift, giving opportunity for increased women employment. Ambience of the Garments factory is significantly better when compared to the other sectors of the industry with respect to air pollution, water pollution, noise pollution etc. These are the positive aspects, which are well suited for the state of Kerala where the workforce is relatively better educated and more knowledgeable.

TEXTILE VALUE CHAIN (TYPICAL)



CHAPTER V

SPINNING SECTOR



Current status of the Mills

Owing to the '*sinusoidal'* business nature of the Sector, the working capital support given by Government every year is getting eroded and thus leading to reduction of capacity utilization for want of raw material and default in statutory payments and payment to raw material suppliers. Consequently, these mills are struggling to meet their commitments, and hence concrete measures are required to strengthen these mills to overcome the crises on a permanent basis.

Even while passing through unmanageable circumstances, the PSU/Co-op. spinning mills, generating an annual revenue of more than Rs.100 Crore, with due contributions to the Exchequer, have been trying to continue their operations.

Crisis faced by the state PSU/Co-Op. Spinning Mills

1. *Adverse External Factors*
   a. *Supply & demand Mismatch*

      The entire textile value chain is reportedly in a state of flux at present. External factors. adversely affecting the commercial front are the major problems faced by the spinning mills. The performance of these mills is to a large extent determined by the up-country textile markets which are commodity markets where prices of finished products are market driven. Excessive and very liberalized import of textile goods to the country has resulted in over flooding of textile supplies in the domestic markets, leading to poor price realization for the end products, incapable of absorbing the production costs.

      While the yarn spinning sector has expanded substantially on the strength of TUF schemes, the fabric sector is reportedly not able to absorb the increasing yarn production of the country, resulting in supply demand mismatch, adversely affecting the prices and movement of yarn. Added to

this, the demonetization policy severely affected the whole textile sector and small scale weaving and processing units were kept closed for weeks.

When there are not many takers, the yarn market being a buyers' market, become sluggish often, resulting in heavy accumulation of yarn, affecting the liquidity of the mills. Under such circumstances, where buyers become choosy, the PSU/Co-op. spinning mills whose yarn is not of standard quality (due to poor machinery conditions) are forced to liquidate their yarn at the realizable prices, thereby eroding their working capital in the long run.

b. Fluctuation of raw material price.

Steep increase in the prices of Cotton, the main raw material and major cost component of the spinning mills recently ruined many of the Kerala PSU/Co-op. Spinning mills. The cost of production has gone up considerably whereas the selling price of finished product is inadequate, resulting in a negative skew between cost of production and sales realization. In spite of our country being the second largest producer of cotton in the world next to China with increasing yield every year, the domestic mills have not benefited in any way, because of the cotton prices reaching an all-time high recently, due to uncontrolled and excessive export of cotton from India to other countries. Speculative business activities by multi-national agencies are also reportedly the major reasons for the spiralling cotton prices.

Cotton is an agricultural commodity, coming under the purview of the Ministry of Agriculture of the Central Government. While the said Ministry adopts various measures to keep the cotton prices on the higher side in the interest of the cotton farmers of the country, by allowing export of the cotton without any limit, increasing of minimum support price

(MSP) of cotton etc., the Central Textile Ministry has virtually no control over the same to protect the interests of the spinning sector. Hence, cotton prices are allowed to be fixed without considering the commercial value of the same, ending up in the present poor plight of the state spinning mills.

2. *Heavy outstanding dues to Creditors (suppliers of raw material)*

The poor infrastructural and outdated technologies prevailing in most of these mills over the years, and the resultant adverse effects on the bottom line, have drained the finances of these mills. Many of these mills were sick units taken over by the Government and rehabilitated with the available limited funds.

On account of the above, the mills are unable to service the raw material suppliers in time, and the outstanding dues have mounted up and reached frightening heights. Consequently, the suppliers of raw material are reluctant to effect further supplies to most of the mills. Centralized cotton purchase committee constituted for cotton purchase could not function effectively for the past few years due to poor participation of suppliers and hence, mills are forced to purchase raw material which was available for sale without considering the quality aspects. Moreover as the previous dues to raw material suppliers were not settled the vendors are reluctant to supply material without clearing the dues.

3. *Inability to procure Cotton (raw material) during crop season*

Due to the non-availability of bulk working capital facility for procuring raw material during crop season at an economical price, it is only impossible to procure the available quality cotton on daily basis or with small interval. Hence, most of the PSU/Co-op. mills are on a 'hand to mouth' existence in the matter of raw material. Being a natural fibre, the quality parameters of cotton available during the crop season would be better compared to that available during the off- season period. During the year 2018-19, the cotton price increased by 40%

in comparison to that of crop season in all varieties of cotton, which are used in the Govt. mills and this is quite alarming. This results in significant increase of production cost, raw material being the major cost component, ending up in negative working results and eroding the working capital and net-worth in the long run. The quality parameters of cotton available during the crop season, especially in the initial period of the season would be much superior. This gives better product quality and better yarn realization (production) which has significant impact on the working performance of the mills. Hence, competence of the industry lies mainly in the time of procurement with regards to quality and at economical prices.

4. *Pending Statutory Dues*

Due to heavy erosion in working capital and net loss, statutory payments like EPF, ESI, LIC premium contributions, Gratuity amount of retired workers and staff etc. are pending for payment for the last three years. EPFO and ESI Corporations have started recovery measures for non-payment of contributions. Bulk superannuation of workers is one of the problems faced by some of the mills and gratuity commitment for these mills will be high for next two to three years. This will be an added financial burden for these mills.

5. *High Operating Costs*

i) *Non proximity to the raw material sources or yarn market:*

Spinning mills in Kerala are situated far from the Raw material source and yarn markets. In both cases the transportation costs are now a days very high and which are directly or indirectly charged back to the manufacturer resulting increased raw material cost or low selling price as there are no local consumers for finished goods.

ii) Low labour productivity

Considering the hyper competitive business nature of textile industry, non conducive working environment like high labour cost, low productivity of men & machine prevailing in the State spinning mills increases the operating costs heavily. The work assignment fixed on mutual settlement with trade unions are very low, compared to the industry standard of similar industry in other States, causing the mill to engage more labour than that is required. In the State run mills, about 75 spindles are allocated per worker against the prevailing industrial average of 200 spindles per worker, implying suboptimal work assignment.

This has drastically increased the salary and wages cost on Value of Production. The market prices of yarns are mostly based on the calculation of labour cost prevailing in other State, where mostly contract workers are engaged with very low man-day wages and operating at very high labour and machine productivity. So far, the permanent workmen are mostly engaged in the mills and employment of contract workers or from workers migrated from other states could not be engaged as this being exploitation and cannot be practiced in Kerala Govt. mills, as done in competitor's' private mills in other states. Hence, the only option to reduce the wages cost is to modernize the mill with high-tech machines with maximum automation and highest labour and machine productivity, capable of producing high quality value added yarns which are saleable at premium price.

In the spinning sector, the labour productivity is measured as HOK, which is a relative measure of mills level in relation to machine productivity. The sector's current level of HOK is about 30 against the industry norm of 12. This means that the labour productivity is about 2.50 times higher than the benchmark.

Currently, the wage cost as a percentage of VoP is about 35% which is the second most cost component in the Mills of Kerala, where as in other parts of the country, it is about 10% of the VoP, forming 3rd most cost component next to raw material and power.

6. *Old / obsolete and ill maintained machinery*

Most of the machinery in the Government controlled spinning mills are obsolete due to which the productivity is lower than the industry benchmark. Owing to financial crunch, timely maintenance and Upgradation/modernization of the machinery/ technology has not been done. This has adversely affected the productivity, product quality, machine utilization etc., ending up in negative working results, eroding the working capital and net worth over the years, forcing the mills to sub-optimize the performance in a non-linear way. Therefore, repairs and maintenance of these machines are to be undertaken as a full package on a war footing basis to improve product quality. Scheduled maintenance is also totally lacking in all mills.

7. *Absenteeism*

Given the dynamics of the industry, the absenteeism of workmen for attending job is on a higher side in Kerala as compared to the industry bench mark. Further, lack of transport facilities to the mills is also one of the reason as most of the mills are located in remote village area. Hence, sufficient spare workmen are essential to keep the capacity utilization on higher level especially, in 3rd shift or night shifts.

The average capacity utilization of the Mills in the state is about 55 to 60% against the industry standard of 98.5%.

8. *Quality checking & correcting*

Even though a full-fledged testing laboratory is available for all the Mills at KSTC, the same is not effectively utilized. The practice of regularly checking the outgoing yarn quality and the process materials are lagging among the mills and those mills which are testing sparingly also owe dues on testing charges. A system will have to be evolved for regular testing and monitoring based on quality parameters.

9. *Technical capability*

There is lack of qualified technical persons in essential areas like production, maintenance and quality control etc. The shortage of personnel in key technical areas will have to be looked into and vacancies are to be filled.

10. Timely infusion of funds

Timely infusion of fund is the need of the hour. Delay in release of funds from Government for working capital and capital expenditure have adversely affected the performance of these mills physically as well as financially. Delay in disbursal of funds for modernisation/ expansion/ renovation projects have caused time over-run and cost over-run and has affected the viability, efficiency and utilisation of the projects. Undue delay in disbursal of working capital support has led to diversion of the funds for payment of statutory dues and thus the whole purpose of funding is defeated.

Due to the aforesaid sectoral issues, the mills under the control of Govt. of Kerala have been hit consistently on the bottom-line non-linearly.

- In Kerala, only PSUs and Co-operative Mills are working with a manpower strength of about 3500. No private mills are functioning except GTN and PRECOT (with automation).
- As the country is having an excess spinning capacity by 45%, the spinning mills have started migrating to neighbouring countries like

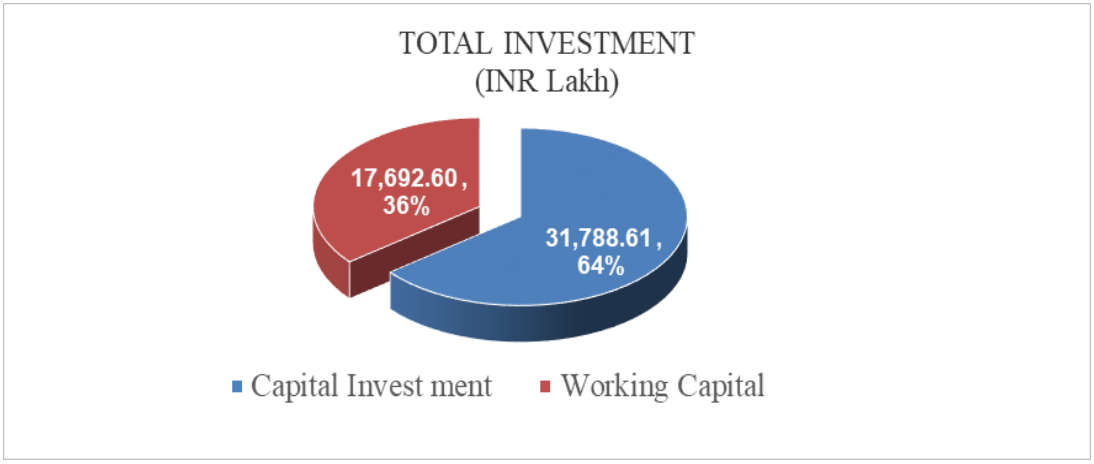
Bangladesh, Srilanka and other African countries where the manufacturing cost is advantageous.

- Due to the nature of works involved in the spinning industry and very low man day wages no new worker is getting attracted to the industry, which result in shortage of manpower and absenteeism.
- Considering the nature of work, the productivity is also affected by the age of workers.

EXPERT COMMITTEE REPORT – A REVIEW

Having studied the sectoral issues, the Expert Committee constituted by the Government vide GO (Rt) No.88/2017/ID dated 18th January 2017 had suggested an investment of Rs. 49481.21 lakh (Rs. 31788.61 for Capital investment, Rs.17692.60 for Working Capital) for the sustained performance of the mills through modernisation from the current level of 62.16 to 100.47 and thereby improving the metrics of

- Improvement in yarn quality
- Reduction in waste
- Reduction in machinery maintenance expenditure and
- Manufacturing of value added products, apart from improving labour and machine productivity.



However, it is now felt that the above proposition not only consumes more time to implement but also might not yield the business outcome as envisaged because spinning is at the backward most end of the textile value chain (business outcome is better as we move closer to the front end of the value chain).

Interventions Proposed

As a trade-off between continuing the current spinning operations and to improve the business performance of the mills, the following are the interventions suggested on leverage principle

1. A centralised 'SALES MECHANISM' meant for both PSU mills and the Co-Operative mills has to be evolved based on the 'Market Intelligence' approach. In this aspect, the system being followed by National Textile Corporation Limited (NTC) may be taken as the reference and the same can be customised. NTC has a Marketing Director in their Head Office at New Delhi who is getting the constant inputs on markets from Executive Directors of three regional offices (Northern Region, Western Region and Southern Region). The Regional offices are equipped with General Manager / Deputy General Manager (Marketing) who have a dedicated sales force from Manager to sub-staff for getting regular feedback from the market.

   In the PSU / Co-Operative mills, such mechanism is currently not in place and has to be planned prospectively.

2. All the mills have to be "100% Auto-Coner" ready. This is suggested to improve the final package density and thereby improving the sales realisation of the produce for a given quality. Autoconer have become the *defacto* process machinery in 1990s in other parts of the country.

It is inferred from the flow chart of Spinning Process shown below that the 'Winding' department is the last process department of a given Spinning mill, wherein the cops are wound onto a cone, that gets packed and sold to the market. In this value added department, most of the state spinning mills are equipped with the conventional winding machines of 60s and 70s technology, which not only produces the inferior cone quality but also more labour intensive.

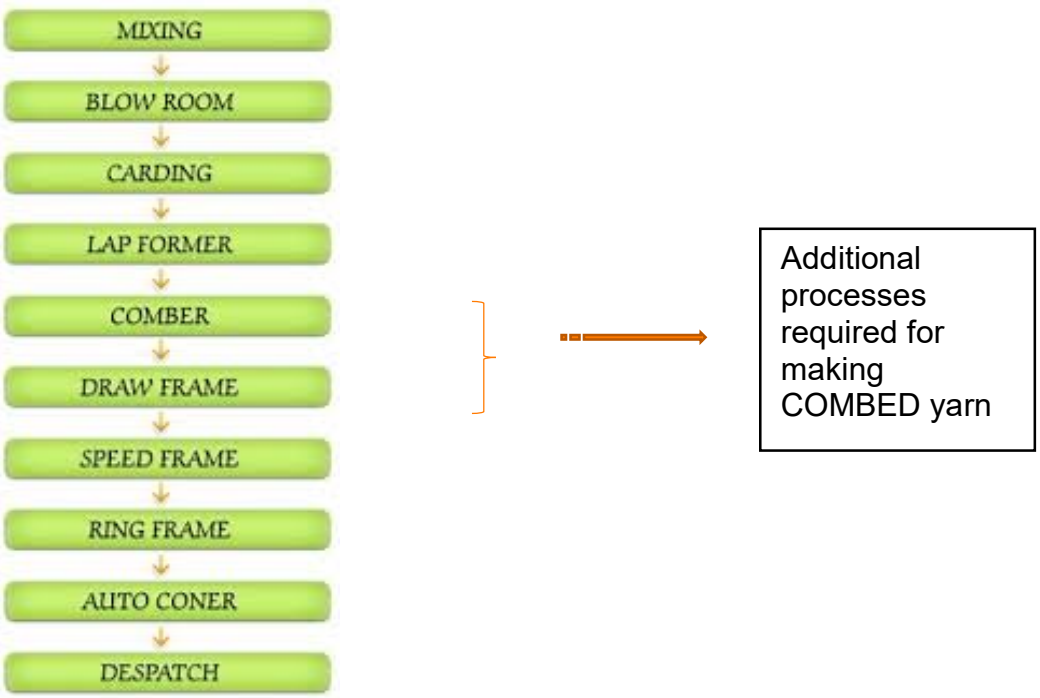
As this department is staying closer to the market, it is suggested to replace the said conventional cone winding machines to 'Automatic Cone Winding' machines (AUTOCONER). On to the production front, an Autoconer of 60 drums will replace a conventional machine of 120 drums. On to the Labour front, one Autoconer requires a worker per shift as against three to four workers for a conventional machine.

Even though this study aims to create employment potential in the industry, this proposition of Autoconer is suggested as a business suggestion. By introducing Autoconers in the winding department, about two-third of workers saved in the department can be deployed in the spinning and allied departments. The mills are facing acute shortage of workers for improving Capacity Utilisation which is the critical success factor of a given spinning unit.

On to the investment aspect, one Autoconer would be costing about Rs. 200.00 lakh (including mini civil works). EIGHTEEN Autoconers are proposed at an investment of Rs.3600.00 lakhs.

3. Those spinning mills which are not having 'COMBED' process can be equipped with the same as it is a Value added process bringing additional employment and increased sales realisation.

COMBED YARN PROCESS FLOW



Out of the state controlled spinning mills with capacity of about 3,00,000 spindles, 1,00,000 spindles are equipped with combed process and out of the remaining 2,00,000 spindles, it is proposed to equip 25,000 spindles with combed process.

Combed process is suggested to improve the market base and also to improve the sales realisation per kg of yarn as the current younger generation spends more on the value added products, which are mostly of combed yarns.

Modern Combed process machinery of 1 set, comprising one pre-comber drawing, one lap former and six combers would cater to 25000 spindles of Ne 40s process.

Investment required for one set of combed process machinery costs about Rs.650 lakhs (pre-comber drawing Rs.25.00 lakh; lap former with accessories: Rs.125.00 lakh; 6 combers Rs.500.00 lakh).

By creating combed process, additional employment of about 10 would be created.

4. Currently the testing of fibre and yarn of all State controlled Spinning Mills is being done by a Centralised Testing laboratory (CARDT), which is a unit of KSTC. There is inordinate delay in testing of materials. The testing of fibre and yarn should be on a real time basis for better techno commercial decision making. Hence it is proposed to create testing facility at an estimated cost of Rs.100 lakhs per mill. Thus an amount of Rs.1200 lakhs is required for this. The existing facility now functioning in the premises of Trivandrum Spinning Mills can be transferred to this mill.

AN OVERVIEW OF GOVERNMENT CONTROLLED MILLS OF KERALA

A. PSU mills

Mills under Kerala State Textile Corporation Ltd

Name of the Unit & its location	Land	Built up area (Sq. Ft)	
	Area (Acre)	Administrative Block	Main Factory
Prabhuram Mills, Kota, Chengannur, Alappuzha District	12.72	7645	64584
Kottayam Textiles, Vedagiri, Kanakkary, Kottayam District	21.62	7460	105187
Edarikkode Textiles, Puthuparamba, Edarikkode, Malapuram District	16.00	4691	127884
Malabar Spinning & Weaving Mills, Thiruvannur, Kozhikode District	12.36	4648	108969
Hi-Tech Weaving Mills, Pinarayi, Kannur District	1.50	5082	35707
Komalapuram Spinning And Weaving Mills, Komalapuram, Alapuzha District	31.00	2300	130000
Uduma Textile Mills, Uduma, Mylatty, Kasaragod District	23.83	12165	62474

(i) Prabhuram Mills

Prabhuram Mills, was set up at Kotta, a remote village in Chengannur Taluk of Alappuzha District, in the year 1972 by the renowned Cine Artist Late Sri. Sivaji Ganesan, in 12.72 acres of land. This mill was vested with the Corporation as per Kerala Sick Textiles Undertaking (Acquisition &Transfer of Undertakings) Act. The installed capacity of the mill since incorporation was 17,536 ring spindles and it started reducing from 2014 and reached 9160 spindles during 2018. After Repairs & Maintenance, the present working capacity of the unit is 13160. The unit produces Polyester Cotton blended yarn.

The capacity utilization was far below average and it is improving and reached a level of 80%. But it needs to be further improved to 98.50%, which is the industry norm. In addition, the unit's specific production ("p" grams:

production per spindle shift of 8 hours adjusted to Ne 40s count) is about 85 grams against the industry standard of 110 grams.

Since takeover of the mills by Government of Kerala in the year 1978 and the unit had undergone a below par modernisation after 30 years, in the year 2008, worth Rs.427.26 lakhs. More than 10 years have elapsed after this. Major part of the modernisation amount has been spent for buying 9 spinning machines from China (HONGJI), for which the useful life is about 10 years and same has been over now. Average age of the machines from Blow room to Cone winding is about 30 years.

Inter and intra mill comparison with respect to the absorption of technology of machines, can be done based on the metric - OVERALL MODERNISATION INDEX (OMI). As per SITRA norms, the OMI of a viable mill should be a minimum of 60. Hence, mills with OMI below 50 is uneconomical. The current OMI of this mill is only 37.69. Present level of modernization index of the mill is given below:

Blow Room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring frame	Cone Wdg.	OMI
41.67	85.71	33.33	28.57	100	58.33	30.63	25.00	37.69

The very low OMI is the major reason for increased cost of production. Variable cost components alone constitute more than 100% without taking interest and depreciation into account, making the unit difficult for working capital management.

Sl. No.	**Cost Component**	**%of Turnover (Average of 3 years)**	**SITRA Norm**
1	Raw Material	66.36	53.5
2	Power	17.92	15.5
3	Salaries & Wages	35.19	7
4	Stores & Packing Materials	1.47	4
5	Admin. Overheads	6.18	7
	Total Cost	**127.12**	**87**

Employee productivity is never achieved. Wages paid against the respective output of a given employee is significantly higher. Salaries & Wages is five times higher compared to the norms. Hence the operations of the unit are not viable.

The unit has received average Working Capital support of Rs.150 lakhs from Government during the past 10 years, but this has not yielded any positive outcome. Working Capital Assistance received from Government is given below:

Year	Amount (Rs. lakh)
2009-10	53
2010-11	94
2011-12	148
2012-13	81
2013-14	238
2014-15	100
2015-16	275
2016-17	257
2017-18	352
2018-19	135

In addition, financial performance of the unit is also below par and the net worth of the unit is negative.

The performance of the unit for the past ten years is as follows:

Year	Operating profit/Loss (in lakhs)	Net profit/Loss (in lakhs)
2009-10	-23	-82
2010-11	45	-67
2011-12	-266	-402
2012-13	-3	-160
2013-14	-145	-296
2014-15	-257	-462
2015-16	-379	-577
2016-17	-258	-476
2017-18	-317	-493
2018-19	-482	-528

India's supply of yarn is in excess by more than 45% compared to its demand. With the Central Government assistance through Technological Up-Gradation Fund Scheme (TUFS), almost all the spinning mills in the country had up scaled the technological absorption and the average age of the machines of those mills is less than 10 years.

In addition, the other developing countries like Bangladesh, Vietnam, Uzbekistan, Srilanka etc., are competing with India in Global yarn market because of their competitive price and better quality; and tomorrow's survival mantra of spinning mills in India is purely going to be cost advantage with product differentiation. In all probability, this unit would be finding hard to withstand the heat of hyper competitive business environment.

The mill has a manpower strength of 169 and the average age of workers is 42 years. With the aged workforce, the unit finds it hard to improve the labour productivity and also in attracting new workers because of the low man-day

wages. Attrition of the workers is also high due to inherent nature of spinning work elements like dust & humid atmosphere and three shifts work timings.

The plant & machinery of the mill is very old and total replacement of plant and machinery is needed for modernisation of the mill. An investment of Rs.50 crores is required for this. In view of the present market situation and poor demand for yarn, total modernisation is not worth considering.

Hence it is suggested to continue operations of the mill as long as the existing facilities and manpower can be effectively utilised. The unit's land admeasuring 7.72 acres and the buildings can be used for setting up Textile related industry especially Garments, so that the local economy can be maintained by creating equal or more employment.

(ii) Kottayam Textiles

Kottayam Textiles was started in 1968 as a Private Limited Company by Sri. K S Narayanaswamy Iyer, in 21.62 acres of land. The licensed capacity of the mill was 11,976 spindles. The company started its commercial production on 01NOV'68 and later in 1974 the capacity was enhanced to 14,616 spindles. However, due to poor market conditions the mill started incurring huge loss and gradually went into liquidation in the year 1975. After about 3 years of shut down, the mill was taken over by the Government of Kerala and vested with Kerala State Textile Corporation Limited in 1978. The capacity was increased by another 9,680 spindles and 664 Spindles in two phases. The spindle capacity was enhanced to 24,960 with effect from 22 NOV 85.

The unit presently produces fine and superfine cotton combed and carded yarn. The average age of the machinery is 31 years and technology is obsolete. Neither modernisation nor repairs and maintenance was carried out in the mill except installation of 3888 new spindles in 2008. The spinning machines are of Chinese make [HONGJI] and the average life of these machines is 10 years. Presently

17468 spindles are only working. The capacity utilisation is below 40% against the industry benchmark of 98.50%. With respect to the specific production capacity of the mill, “p” gram is about 70.00 which is very low when compared to the benchmarking level of 110 grams.

As per SITRA norms, the OMI of a viable mill should be a minimum of 60. Hence mills with OMI below 50 is uneconomical. The overall Modernisation Index (OMI) is very low at 38.62. Present level of modernization index of the mill is given below

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
33.33	66.67	40	42.86	120	80	28.95	25	**38.62**

The unit has received an average working capital assistance of Rs.225 lakhs during the past ten years. Even with Government support, the unit is finding hard to manage the day-to-day operations. Working Capital Assistance received from Government is given below:

Year	**Amount** (Rs. lakh)
2009-10	76
2010-11	134
2011-12	210
2012-13	98
2013-14	339
2014-15	169
2015-16	290
2016-17	365
2017-18	465
2018-19	103

The working capital gets completely eroded in 2.56 cycles of rotation whereas in a typical spinning mill, working capital cycle is about 60 days.

Sl. No.	Components of Cost	% of turnover (Avg. of 3 years)	SITRA Norm
1	Raw Material	63.79	53.5
2	Power	18.84	15.5
3	Salaries & Wages	48.12	7
4	Stores & Packing	2.56	4
5	Admin overheads	5.72	7
	Total Cost	**139.03**	**87**

The employee productivity is very low because of the low work assignment and very old machine. The wage cost is about 7 times higher than the standard on Turnover basis.

The mill has a manpower strength of 248 and the average age of workers is 44 years. As a result of this, it is difficult to improve the labour productivity and also to attract new workers because of the low man-day wages. Attrition of the workers is also very high due to inherent nature of spinning work elements, dust & humid atmosphere and three shifts work timings.

The financial performance of the unit is very poor and the net worth is negative. The performance for the past ten years is as follows.

Year	Operating Profit/loss	Net Loss
2009-10	188	139
2010-11	81	-17
2011-12	-407	-506
2012-13	-15	-155
2013-14	-235	-385
2014-15	-405	-621
2015-16	-546	-783
2016-17	-393	-673
2017-18	-527	-780
2018-19	-766	-794

As it has been mentioned earlier, India's supply of yarn is in excess by more than 45% compared to its demand, thus making the unit difficult to market its inferior quality produce. Today, almost all the mills in India have an OMI of above 100 by making use of TUFS assistance given by Government of India, and up scaled the technological absorption. In addition, the other developing countries like Bangladesh, Vietnam, Uzbekistan, Srilanka etc., are edging out India in Global yarn market because of their competitive price and better quality; and tomorrow's survival mantra of spinning mills in India is purely going to be cost advantage with product differentiation. In all probability, this unit would be finding hard to withstand the heat of hyper competitive business environment.

Thus, it can be seen that total replacement of plant & machinery is essential for complete modernisation of the mill and an amount of Rs.50 crores is required for this. Hence, it is suggested that considering the present market condition, complete modernisation of the mill with huge capital investment is not worth considering.

It is suggested to continue operations of the mill as long as the existing facilities and manpower can be effectively utilised. The excess land and buildings can be used for setting up Textile related industry especially Garments, so that the local economy can be maintained by creating more employment opportunities in a sustained way.

(iii) Edarikkode Textiles

Edarikkode Textiles is located at Puthuparamba, Kottakkal in 19.16 acres of land. The mill was set up in the year 1982. The first phase was completed and commercial production started with 12500 spindles in 1986. The spindle capacity was increased to 24960 in 1996. The average age of the machinery is 26 years. Even though partial Modernisation activities were carried out in 2008/2009, major machines in the unit are obsolete. The unit is presently producing Ne 84s combed and Ne 90s Combed cotton yarn. The present capacity utilisation is very low at 70% against the industry standard of 98.50%. The unit's specific production ("p" gram) is about 70 grams against the norm of 110.

As per SITRA norms, the OMI of a viable mill should be a minimum of 60. However, mills with OMI below 50 is uneconomical. Due to outdated technology and old machines the OMI is only 34.90. Present level of modernization index of the mill is given below:

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
16.67	66.67	40	71.43	120	33.33	25	25	**34.9**

Further, working capital erosion is significantly on a higher side compared to the industry standard. The percentage of wages and salaries cost is very high at 70% against the industry standard of 7%, which is the main reason for the negative performance of the unit. This is because of the low work assignments to the workers coupled with the very low machine productivity and inferior quality of the product.

Sl. No.	**Components of Cost**	**% of Sales turn over (Avg.of 3 years)**	**SITRA Norm**
1	Raw Material	60.58	53.5
2	Power	21.46	15.5
3	Salaries & Wages	70.59	7
4	Stores & Packing materials	1.64	4
5	Administrative overheads	11.37	7
	Total Cost	**165.64**	**87**

The mill has a manpower strength of 215 with an average age of 48 years. With the aged workforce, the unit finds it hard to improve the labour productivity and equally so in attracting new workers because of the low man-day wages. Attrition of the workers is also higher due to inherent nature of spinning work elements, dust & humid atmosphere and three shifts work timings.

The unit is currently sustaining the day-to-day operations because of the working capital assistance given by Government. On an average, the unit received an annual working capital assistance of Rs.250 lakhs and is consistently incurring continuous losses for the last 8 years.

Year	Amount (Rs.lakhs)
2009-10	76
2010-11	134
2011-12	210
2012-13	216
2013-14	339
2014-15	192
2015-16	330
2016-17	365
2017-18	464
2018-19	176

The financial performance of the mill is also very poor and Net Worth is Negative. Financial Performance for the past ten years is as given below:

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Year	Operating Profit/loss	Net Loss
2009-10	99	44
2010-11	39	-73
2011-12	-479	-602
2012-13	-201	-366
2013-14	-297	-474
2014-15	-466	-718
2015-16	-549	-826
2016-17	-398	-719
2017-18	-552	-804
2018-19	-737	-788

As it has been mentioned earlier, India's supply of yarn is in excess by more than 45% compared to its demand, thus making the unit difficult to market its

inferior quality produce. Today almost all the mills in India have an OMI of above 100 by making use of TUFS assistance given by Government of India, and up scaled the technological absorption.

In addition, the other developing countries like Bangladesh, Vietnam, Uzbekistan, Srilanka etc., are edging out India in Global yarn market because of their competitive price and better quality; and tomorrow's survival mantra of spinning mills in India is purely going to be cost advantage with product differentiation. In all probability, this unit would be finding hard to withstand the heat of hyper competitive business environment.

With the above input, it can be concluded that the unit is beyond the influx point of revival. As the plant & machinery is very old, total replacement is essential for complete modernisation of the mill. An investment of about Rs.50 crores is required for this. In view of the present market situation and poor demand for yarn, total modernisation is not worth considering.

It is suggested to continue operations of the mill as along as the existing facilities and manpower can be effectively utilised. The excess land and buildings can be used for setting up Textile related industry especially the Garments, so that the local economy can be maintained by creating equal or more of employment than the existing level in a sustained way.

(iv) Malabar Spinning & Weaving Mills

Malabar Spinning & Weaving Mills situated in Kozhikode is the first industry in Malabar area and the first textile mill in Kerala. The mill was established in 1890 by Desamangalam Shri. Narayanan Namboothiripad in 12.36 acres. During 1983, the mill was taken over by Government of Kerala and the assets were vested with KSTC in the name “Malabar Spinning & Weaving Mills”. The mill was closed in 2003 due to financial crisis and reopened in December 2006. After reopening the mill was renovated as a modern mill. The design of the mill is so crafted that the balancing of machines has the ability to produce medium and fine count of yarn of different varieties and it can be used to produce high value fabrics. The present capacity is 25344 spindles. The mill is presently producing 60s Carded and 80s Combed warp yarn and the capacity utilisation is 60% which is significantly lower compared to the industry benchmark of 98%. Present level of modernization index of the mill is given below:

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
75	100	120	100	120	118	100	46	**91**

As it can be inferred from the above table that the OMI is at par with its counterparts elsewhere in India except the Cone Winding department where additional autoconer machines are required.

Immediately upon completing the modernisation project, the sector got into severe recession in FY 2011–12 nationally, affecting working capital management negatively. The unit has received an average yearly working capital assistance of Rs.220 lakhs from Government. Working Capital Assistance received from Government is as follows:

Year	**Amount** (Rs.lakh)
2009-10	77
2010-11	137
2011-12	214
2012-13	191
2013-14	345
2014-15	30
2015-16	255
2016-17	373
2017-18	449
2018-19	125

Even after the modernisation, the mill is not performing upto the expected level. The wage cost is more than three times compared to SITRA standard, but there is a scope for reducing the same to a level of about 15% by scientifically assessing the work assignments and also improving both machine productivity and the quality of the produce, which are possible in this unit because the machines are capable of producing better products.

Sl. No.	Components of Cost	% of Sales turn over (Avg. of 3 years)	SITRA Norm
1	Raw Material	62.11	53.5
2	Power	21.11	15.5
3	Salaries & Wages	24.86	7
4	Stores & Packing materials	7.54	4
5	Administrative overheads	11.22	7
	Total Cost of Production	**126.84**	**87**

The mill has a manpower strength of 263 and the average age of workers is 38 years. The Performance of the mill for the past ten years is given below:

Year	Operating Profit/loss	Net Loss
2009-10	26	-57
2010-11	70	-206
2011-12	-267	-749
2012-13	190	-389
2013-14	-153	-772
2014-15	-330	-886
2015-16	-475	-1113
2016-17	-359	-1302
2017-18	-326	-1180
2018-19	-713	-1067

From the above it is evident that the unit is finding it difficult to sustain its operations to meet its both ends. It is suggested to sustain operations with the short and near term interventions of

- Purchasing required Autoconers.
- Conducting scientific work study and fixing the work assignment accordingly.
- Strengthening the technical team

In order to further improve the internal efficiency, three more Autoconers are proposed for the mill at a cost of Rs. 600 lakhs, to make the mill 100% Autoconer ready. Two Autoconers are already available in the mill catering to about 40% of the production. Autoconers produce good quality yarn compared to conventional cone winding machine and also improve the efficiency of downstream processes like warping, sizing etc. By installing autoconers, labour requirement can be reduced to 70% and will increase the revenue by 5%.

In addition to this, an amount of Rs.85 lakhs is required for immediate repairs and maintenance for the machines purchased earlier for improving machine productivity and product quality. Repairs and maintenance of existing process machinery is suggested to upkeep the mechanical condition of the same so that components are free from basic abnormalities. This would increase the output by 5%.

As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakhs for testing the critical quality parameters of cotton and yarn. Thus, a total amount of Rs.785 lakhs is required for improving the efficiency and productivity of the mill.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	3 Nos.	600
2	Repairs & Maintenance	85	1 lot	85
3	Testing facility	100	1 lot	100
	TOTAL			**785**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

(v) Komalapuram Spinning & Weaving Mills

M/s Kerala Spinners Ltd. was incorporated in 1964 to implement a spinning mill at Komalapuram, Alappuzha based on an industrial license issued to KSIDC. The mill was set up in 1964 with M/s Grasim Industries Ltd as promoters. Commercial operations commenced in 1969 with a capacity of 2888 spindles which was subsequently enhanced to 18040 spindles. The company was closed in 2003 and was referred to BIFR and declared sick in 2006. The unit was taken over by the Government through Act 4 of 2010, and the assets were vested with KSTC in November 2009, and renamed it as Komalapuram Spinning & Weaving Mills. The unit has an installed capacity of 18,240 ring spindles and 30 Air-Jet looms with state-of-the-art technology.

The mill was revived in 2011 with an investment of Rs.46.35 crores The installed capacity is 2.07 MT of yarn and 14696 meters of grey fabric per day. The unit remained inoperative till 2015 and steps were taken to commence the operations in two phases based on the balancing of machinery in Spinning and the availability of power. The mill has a capacity of 18240 spindles and commercial production of 4800 spindles was started in March 2016.

The unit is a new one and the full capacity utilisation is being achieved progressively. hence the following interventions are suggested to continue operations.

- To improve efficiency, three Autoconers are suggested at a cost of Rs. 600 lakhs.
- An amount of Rs.65 lakhs is required for immediate repairs and maintenance of machines for improving machine productivity and product quality.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakhs for testing the critical quality parameters of cotton and yarn. Thus, a total amount of Rs.765 lakhs is required for improving the efficiency and productivity of the mill.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	3 Nos.	600
2	Repairs & Maintenance	65	1 lot	65
3	Testing facility	100	1 lot	100
			TOTAL	**765**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

(vi) Uduma Textile Mills

Uduma Textile mills was set up at Mylatty, Uduma in 2011 as a green field project with an investment of Rs.20.04 crores with funding from Government of Kerala and KMML as loan and equity. The unit has an installed capacity of 3.443 MT of yarn per day with 11088 spindles with state of the art plant and machinery. The implementation was completed in 2011. But the unit remained inoperative on account of lack of efforts to organise the requisite infrastructure and utilities for operation. An amount of Rs.9.60 crores was released by Government to equip the unit to start commercial operation. The commercial operations started from January 2019. The unit is presently running 8088 spindles in two shifts. Two autoconers were purchased during September and the mill will soon operate in full capacity.

As the unit is a new one and the full capacity utilisation is being achieved progressively the following interventions are suggested to improve the operations of the mill.

- To improve internal efficiency, one more Autoconer is proposed at a cost of Rs.200 lakhs.
- An amount of Rs.15 lakhs is required for immediate repairs and maintenance of machines for improving machine productivity and product quality.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakhs for testing the critical quality parameters of cotton and yarn. Thus, a total amount of Rs.315 lakhs is required for improving the efficiency and productivity of the mill.
- As a value addition measure, Combed process is suggested to improve the yarn quality and thereby increase top line growth. A minimum of 5% increase in turnover is expected by producing combed yarn instead of carded yarn.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	1 No.	200
2	Repairs & Maintenance	25	1 lot	25
3	Testing facility	100	1 lot	100
4	Combed process	650	1 set	650
	TOTAL			**975**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

(vii) Hi-Tech Weaving Mills

Hi-tech Weaving Mill was set up at Pinarayi, Kannur in 2011 with an investment of Rs.27.20 crores with state of the art plant and machinery. The unit has an installed capacity of 4.88MT of fabrics per day and has 36 Air jet looms. The unit is unique as it is the first weaving unit under KSTC and is also the first Government controlled weaving unit of the State with unconventional looms & Air jet looms of latest technology. All preparatory and weaving machines were imported from Belgium, Germany and Switzerland. Even though the implementation was completed in 2011, the unit was not functional till 2017. During 2018, Government of Kerala released an amount of Rs.885 lakhs for technological overhauling of the unit and to make the unit fully operational. The unit started commercial operation in February 2019. The unit is a new one and the full capacity utilisation is being achieved progressively and hence it is suggested to improve the operations by creating a testing laboratory at an estimated cost of Rs.100 lakhs for testing the critical quality parameters of yarn and fabric.

(b) SITARAM TEXTILES LIMITED

Land	Built up area (Sq. Ft)	
Area in acres	Administrative Block	Main Factory
9.3362	4000	50000

Sitaram was established in Poonkunnam by TR Ramachandra Iyer in early 1940s as “Sitaram Spinning & Weaving Mill Limited”. It was subsequently taken over by the State Government in 1975 and was incorporated as Sitaram Textiles Limited as a composite mill and commercial production started in 1978. The company had 26 ring frames, 320 looms and a process house capable of processing 40000 metres of cloth per day in bleached and dyed variety. During 1988, the company was declared as relief undertaking

till 1998. The loom section was closed during 1988. As per the feasibility study by SITRA the Weaving and Processing which were found not viable and subsequently process house was closed during 2004.

Later the spindle capacity was enhanced to 14600 in 2016. During 2011, a modernisation project with an outlay of Rs.19.86 crores was approved by Government. An amount of Rs.10.45 crores was released for this project and the mill was partially modernized and spindle capacity was further enhanced to 16912. However, most of the machines at the final/important stages of processing are still very old. The capacity utilisation is 70% against an industry benchmark of 98.5%, which is very low for a sustained performance. The specific production of the company is also very low at 70 grams against the SITRA norm of 110.

The average age of the machine is 27 years even though the company has undergone a partial modernisation amounting to Rs.1045 lakh during the year 2012 - 13. As per SITRA norms, the OMI of a viable mill should be a minimum of 60. However, mills with OMI below 50 is uneconomical. The company's OMI is very low at 46.54. Present level of modernization index of the mill is given below:

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
50	67.58	50	57.14	100	56.41	99.97	37.5	**46.54**

The Company has received an average annual working capital assistance of about Rs.136 lakhs from the Government during the past ten years. Working Capital Assistance received from Government is given below:

Year	Amount (Rs. lakh)
2010-11	75
2012-13	141
2013-14	271
2015-16	233
2016-17	100
2017-18	330
2018-19	209

The employee productivity of the company is very low and the norm is never achieved.

Sl. No.	Components of Cost	% of Sales turn over (Avg. of 3 years)	SITRA Norm
1	Raw Material	63.04	53.5
2	Power	16.11	15.5
3	Salaries & Wages	34.14	7
4	Stores & Packing materials	1.00	4
5	Administrative overheads	2.46	7
	Total Cost	**116.75**	**87**

The mill has a manpower strength of 197 with an average age of 40 years. With the aged workforce, the unit finds it hard to improve the labour productivity and equally so in attracting new workers because of the low man-day wages. Attrition of the workers is also higher due to inherent nature of spinning work elements, dust & humid atmosphere and three shifts work timings.

Very low work assignment, low specific production and inferior product quality make the company's performance sub-optimal and make the company very difficult to manage its day-to-day affairs.

Year	Operating Profit/ loss	Net Profit/ Loss
2009-10	62	36
2010-11	126	81
2011-12	-203	-249
2012-13	70	-51
2013-14	-126	-338
2014-15	-225	-473
2015-16	-253	-558
2016-17	-214	-575
2017-18	-303	-704
2018-19	-310	-724

As it can be inferred from the above tables, the company's financial performance is also very poor and so the Net Worth is negative.

As it has been mentioned earlier, India's supply of yarn is in excess by more than 45% compared to its demand, thus making the unit difficult to market its inferior quality produce. Today almost all the mills in India have an OMI of above 100 by making use of TUFS assistance given by Government of India, and up scaled the technological absorption. In addition, the other developing countries like Bangladesh, Vietnam, Uzbekistan, Srilanka etc., are edging out India in Global yarn market because of their competitive price and better quality; and tomorrow's survival mantra of spinning mills in India is purely going to be cost advantage with product differentiation. In all probability, this unit would be finding hard to withstand the heat of hyper competitive business environment.

With the above input, we can infer that the company is beyond the influx point of revival. As the plant & machinery is very old, total replacement is essential for complete modernisation of the mill. An investment of about Rs.50 crores is required for this. In view of the present market situation and poor demand for yarn, total modernisation is not worth considering.

It is suggested to continue operations of the mill as long as the existing facilities and manpower can be effectively utilised. The excess land and buildings can be used for setting up Textile related industry especially, so that the local economy can be maintained by creating more employment in a sustained way.

(c) TRIVANDRUM SPINNING MILLS LIMITED

Land	Building (Built up area in Sq. Ft)	
Area in acres	Administrative Block	Main Factory*
3	1000	59000

* *Part of the company's building (about 60000 ft^2) is rented to Hindustan Latex Limited and the same is NOT included*

Trivandrum Spinning Mills Ltd was incorporated in the year 1962 by Government of Kerala to cater to the yarn requirements of handloom weavers in the southern parts of Kerala. The Mill had an installed Capacity of 25000 spindles and was remaining closed since 1998 due to uneconomic operation and out-dated technology. The employees of the mill have been separated under VRS. and the assets of the mill were under the control of Official Liquidator appointed by the Hon. High Court of Kerala as per directive of BIFR.

Government of Kerala meanwhile ordered to revive the Mill as an open end spinning mill with initial capacity of 360 rotors to produce coarse yarn of 10s Count utilizing the waste produced by mills in State/Co-operative sectors and NTC mills. During 2010, as a part of the Second Phase Expansion a second OE machine was installed and the capacity was enhanced to 680 rotors. The capacity utilisation of the mill is below 30% against an industry benchmark of 98.5 and the company has to make serious efforts in increasing the same.

The mill has a manpower strength of 59 with an average age of 30 years. With this workforce, the unit finds it hard to improve the labour productivity and equally so in attracting new workers because of the low man-day wages. Attrition of the workers is also higher due to inherent nature of spinning work elements, dust & humid atmosphere and three shifts work timings.

The working capital assistance received by the mill for the past five years is given below

Year	**Amount** (Rs. lakh)
2013-14	100
2014-15	150
2016-17	190
2017-18	211
2018-19	58

The performance of the mill during the past ten years is as follows:

Year	Operating Profit/ loss	Net Profit/ Loss
2009-10	11	-2
2010-11	121	-16
2011-12	-71	-211
2012-13	-305	-468
2013-14	-172	-325
2014-15	-114	-231
2015-16	-123	-266
2016-17	-100	-260
2017-18	-75	-243
2018-19	-126	-320

The company was revived with an Open-End (OE) project in 2008-09, first of its kind in the state PSUs. It is suggested to sustain operations, with the following interventions:

- Capacity expansion with one more OE machine with its back process machinery
- Focusing on yarn meant for Denim fabric (virgin cotton spinning instead of waste cotton spinning). This medium term proposal is suggested to improve the existing working condition of the mill.

As a quality improvement measure, the testing laboratory of Kerala State Textile Corporation Limited (KSTC), which is currently functioning in the mills premises is to be given to the mill.

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

With the above proposals, the mill can SUSTAIN its operations.

B. Co-Operative Spinning Mills

Mill	Land	Built up area (Sq. Ft)	
	Area (Acre)	Administrative Block	Main Factory
The Quilon Co-operative Spinning Mills Ltd	10.90	16145	88975
Alleppey Co-operative Spinning Mills Ltd	12.66	32280	107600
The Priyadarshini Co-operative Spinning Mills Ltd	10.34	3150	105800
The Trichur Co-operative Spinning Mills Ltd	10.02	6135	106132
The Malabar Co-Operative Textiles Ltd	10.48	19050	81542
The Malappuram Co-operative Spinning Mills Ltd	17.39	4752	113303
The Cannanore Co-operative Spinning Mills Ltd	5.67	49904	73264
K. Karunakaran Memorial Co-operative Spinning Mills Ltd	9.76	13936	64001

(i) The Quilon Co-operative Spinning Mills Ltd

The Quilon Co-operative Spinning Mills Ltd (QCSM) was registered in 1976 and started commercial operation with 24960 spindles in 1983. Initially the mill was producing cotton yarn but later shifted to PC. During 2015-16, the NCDC assisted modernisation scheme was sanctioned at a project cost of Rs.5739.25 lakhs and an amount of Rs.45.19 crores was released to Government by NCDC. Out of this, an amount of Rs.18.37 crores was released to the mill. The Mill is in lay off since September 2018 for the implementation of modernisation project.

The mill has received an average annual working capital assistance of about Rs.215 lakhs.

Working Capital Assistance received from Government during the past ten years is as follows:

Year	Amount (Rs. lakh)
2009-10	177
2010-11	26
2011-12	127
2012-13	214
2013-14	536
2014-15	150
2015-16	461
2016-17	335
2017-18	56
2018-19	59

The performance of the mill for the past ten years is as follows:

Year	Operating Profit/ loss	Net Profit/ Loss
2009-10	-11	-163
2010-11	-72	-252
2011-12	-256	-321
2012-13	10	-52
2013-14	-229	-298
2014-15	-467	-536
2015-16	-493	-614
2016-17	-494	-980
2017-18	-469	-892
2018-19	-448	-843

The company is in lay-off for more than a year and all of its old plant and machinery had been sold off to implement new project. As part of the modernisation project, the company has purchased some machinery.

Hence it is suggested that the mill may immediately restart operations with the available machinery and the following interventions are proposed.

- To improve efficiency, One Autoconer is suggested at a cost of Rs.200 lakhs.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100.00 lakh for testing the critical quality parameters. of cotton and yarn. Thus, a total amount of Rs.300.00 lakh is required for improving the efficiency and productivity of the mill.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	1 No.	200
2	Testing facility	100	1 lot	100
TOTAL				**300**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

(ii) The Alleppey Co-operative Spinning Mills Ltd

Alleppey Co-operative Spinning Mills Ltd. was started as a primary Co-operative society and registered in 1981 with an authorised share capital of Rs.300 lakhs. The mill started commercial production in 1998 with a capacity of 6048 spindles and manufactured Ne 40s combed cotton yarn. Later, the capacity was enhanced to 12096 spindles in 2010 with state of the art technology machines. During 2012, NCDC assisted modernisation project for Rs.33.94 crores was approved and as part of the project, the capacity was enhanced to 13104 spindles in 2016. The project is in the final stage of completion and the existing capacity will be enhanced to 25200.

The major counts now being produced are Ne 60s and Ne 62s single & double yarn and hank yarn. The capacity utilisation of the mill is about 90% against the industry standard of 98.5% and the mill is expected to achieve the bench

mark capacity utilisation after stabilising the project operations. The 'p' gram is 109 grams which is closer to the SITRA norm of 110.

The mill has a manpower strength of 263 and the average age of workers is 38 years. The wages cost on Selling price is 29%, which is more than 4 times the industry standard of 7%. So, the mill has to revise the work norms as per SITRA standards. As the machines are relatively new and modern and the workforce is also young, implementing the best practices in this mill will not be of difficulty.

The mill is presently undergoing modernization with NCDC assistance and the project is expected to be commissioned by the end of November 2019. Present level of modernization index of the mill is given below:

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
91.67	100	100	85.71	100	93.33	94.85	50	**85.96**

Working Capital Assistance received from Government during the past ten years is as follows:

Year	**Amount (Rs.lakh)**
2009-10	40
2010-11	26
2011-12	136
2012-13	344
2013-14	181
2015-16	280
2016-17	165
2017-18	266
2018-19	81

Most of the machines are relatively new and the Key Performance Indicators like Capacity Utilisation and operational capability (break-even) are comparatively better than other mills. Performance of the mill during the past ten years is given below:

Year	Operating Profit/ loss	Net Profit/ Loss
2009-10	1055	999
2010-11	78	38
2011-12	-197	-334
2012-13	73	-78
2013-14	-181	-348
2014-15	-181	-366
2015-16	-255	-433
2016-17	-215	-421
2017-18	-254	-539
2018-19	-209	-833

The following proposals are suggested to improve the operations of the mill

- In order to further improve the internal efficiency of the mill, one more Autoconer is suggested at a cost of Rs.200 lakhs. Presently, the mill has two Autoconers, purchased as part of NCDC modernisation project.
- An amount of Rs.165 lakhs is required for immediate repairs and maintenance for the machines purchased earlier for improving machine productivity and product quality.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakhs for testing the critical quality parameters. of cotton and yarn.

Thus, a total amount of Rs.465 lakhs is required for improving the efficiency and productivity of the mill.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	1 No.	200
2	Repairs. & Maintenance	165	1 lot	165
3	Testing facility	100	1 lot	100
TOTAL				**465**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

(iii) The Priyadarshini Co-operative Spinning Mills ltd.

Priyadarshini Cooperative Spinning Mills ltd (PRICO) was registered as a co-operative society in 1996. The 1st phase with 6000 spindles was commissioned in 2003 at a project cost of Rs.822.54 lakhs. During 2004, a proposal for expansion to 25,000 spindles at a project cost of Rs.3849.69 lakhs submitted by the mill was approved by Government and recommended to NCDC. The project was sanctioned for Rs.3239 lakhs by NCDC with a term loan of Rs.1846.402 lakhs. The mill is equipped with latest technology machinery. The major counts produced are 60KW,40 CH, 80CCW, and 92 CW. The working spindles are 25392 spindles. The mill was in lay off from 15th January 2019 and resumed operations from 24th June 2019.

The current capacity utilisation is below 60% against the industry norm of 98.5%; 'p' gram is 84 grams against the standard of 110. Average age of the machines is about 11 years and OMI is 96.05. Present level of modernization index of the mill is given below:

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
95.83	100	80	100	120	100	103.8	71.77	**96.05**

The mill has received an average annual working capital assistance of Rs.135 lakhs during the past five years. Working Capital Assistance received from Government is as follows:

Year	2012-13	2013-14	2014-15	2017-18	2018-19
Amount (in lakhs)	169	90	77	67	271

The mill has a manpower strength of 197 and the average age of workers is 42 years. The wage cost on Selling price is about 13% against the industry standard of 7%. So, the mill has to revise the work norms as per SITRA standards. As the machines are relatively new and modern, and the workforce is also young, implementing best practices in this mill will not be of difficulty. Performance of the mill for the past ten years is given below:

Year	**Operating Profit/ loss**	**Net Profit/ Loss**
2009-10	153	-400
2010-11	208	-316
2011-12	-270	-768
2012-13	150	-302
2013-14	15	-393
2014-15	-173	-596
2015-16	-148	-627
2016-17	-319	-791
2017-18	-372	-836
2018-19	-309	-802

Considering the age of machinery, OMI and internal efficiency like Capacity Utilisation and 'p' gram, it is suggested to sustain and improve operations with the following interventions.

- An amount of Rs.200 lakhs is required for immediate repairs and maintenance for improving machine productivity and product quality.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakhs for testing the critical quality parameters. of cotton and yarn. Thus, a total amount of Rs.300.00 lakh is required for improving the efficiency and productivity of the mill.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs.lakh)	Quantity required	Total value (Rs.lakh)
1	Repairs & Maintenance	200	1 lot	200
2	Testing facility	100	1 lot	100
TOTAL				**300**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

With the above proposals, the mill can sustain its operations.

(iv) Trichur Co-operative Spinning Mills Ltd

The Trichur Co-operative Spinning Mills Ltd was registered in 1981 and commercial operation started in 1986 with an installed capacity of 12000 spindles. During 1993-95 the second phase of expansion was implemented with term loan from IDBI, ICCI & IFCI and 13104 spindles was further added. In 2001, partial modernisation was carried out and some old spinning and carding machines were replaced with new technology machinery. The capacity was then maintained at 24288 spindles. The present spindle capacity is 13104 spindles. The mill is currently implementing NCDC assisted modernisation project and after completion of the project the capacity will be enhanced to 25200 spindles. TCSM is now producing Polyester cotton yarn in cone form.

The mill has received an average working capital assistance of about Rs.240 lakhs during the past ten years.

Working Capital Assistance received from Government is as follows:

Year	Amount (Rs. lakh)
2009-10	65
2010-11	165
2011-12	350
2012-13	249
2013-14	382
2014-15	150
2015-16	356
2016-17	540
2017-18	54
2018-19	62

Currently, NCDC assisted modernisation project for capacity enhancement to 25200 spindles is being implemented. Once the project is commissioned, the OMI will be more than 100 and it can perform at par with the industry norms with respect to internal efficiency, like, capacity utilisation, 'p' grams, yarn quality, labour & machine productivity etc. The performance of the mill for the past ten years is as follows: (In lakhs)

Year	Operating Profit/ loss	Net Profit/ Loss
2009-10	1397	1387
2010-11	-143	-162
2011-12	-470	-489
2012-13	-336	-352
2013-14	-617	-639
2014-15	-589	-605
2015-16	-670	-686
2016-17	-621	-636
2017-18	-662	-678
2018-19	-621	-637

The mill is having a manpower strength of 249 and the average age of workers is about 45 years. To improve productivity and efficiency of workers, after implementation of the project, the work norms should be revised as per SITRA standards.

The following interventions are suggested for sustaining operations

- To further improve internal efficiency, two Autoconers are suggested at a cost of Rs.400 lakh.
- An amount of Rs.265 lakh is required for immediate repairs and maintenance for the machines purchased earlier for improving machine productivity and product quality.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakh for testing the critical quality parameters of cotton and yarn. Thus, a total amount of Rs.765 lakhs is required for improving the efficiency and productivity of the mill.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	2 Nos.	400
2	Repairs & Maintenance	265	1 lot	265
3	Testing facility	100	1 lot	100
TOTAL				**765**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

(v) The Malappuram Co-operative Spinning Mills Ltd

The Malappuram Co-operative Spinning Mills Ltd was registered in 1975 with an installed capacity of 25056 spindles for the manufacture of cotton and synthetic yarn. The mill started commercial production in 1981 and was closed down from 1988 to 1990 due to financial constraints. During 1998-99 the mill has installed additional machinery with NCDC assistance. A comprehensive NCDC assisted project at a project cost of Rs.23.14 crores was implemented in the mill in 2016. The mill is producing Polyester cotton and also supplying yarn for school uniform. Presently, 21920 spindles are working. The capacity utilisation of the mill is around 60% against the industry norm of 98.5% and the company has to put serious efforts in improving the same. Since the company is with PC process, its 'p' gram is about 115 which is better when compared to the SITRA standard of 110.

The mill has a manpower strength of 368 and the average age of workers is 45 years.

Average age of machine is about 15 years. The current OMI is 62.8. Present level of modernization index of the mill is given below:

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
45.83	72.27	33.33	57.14	100	67.71	76.97	27.5	**62.8**

The mill has received an annual working capital assistance of about Rs.320 lakhs during the past ten years. Working Capital Assistance received from Government is given below:

Year	**Amount Rs.lakh)**
2009-10	67
2010-11	18
2011-12	207
2012-13	839
2013-14	709
2014-15	200
2015-16	361
2016-17	355
2017-18	320
2018-19	84

Considering the average level of modernisation, average age of the machinery and at par standard ‘p’ grams, the mill can sustain operations with the following interventions.

- Five Autoconers are suggested to improve the efficiency and productivity. Total cost will be Rs.1000 lakhs.
- An amount of Rs.400 lakhs is required for immediate repairs and maintenance for the machines purchased earlier for improving machine productivity and product quality.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakh for testing the critical quality parameters of cotton and yarn. Thus, a total amount of

Rs.1500 lakh is required for improving the efficiency and productivity of the mill.

The performance of the mill for the past ten years is as follows:

Year	Operating Profit/ loss	Net Profit/ Loss
2009-10	-22	-49
2010-11	65	44
2011-12	-549	-553
2012-13	-411	-477
2013-14	-584	-644
2014-15	-725	-799
2015-16	-831	-945
2016-17	-683	-789
2017-18	-804	-951
2018-19	-632	-770

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	5 No.	1000
2	Repairs & Maintenance	400	1 lot	400
3	Testing facility	100	1 lot	100
			TOTAL	**1500**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures. With the above proposals, the mill can SUSTAIN its operations.

(vi) The Cannanore Co-operative Spinning Mills Ltd

The Cannanore Co-operative Spinning Mills Ltd has started commercial production in 1964 with 12000 spindles and capacity was subsequently increased to 25000 spindles in 1997. The mill was in profit upto 1995 but thereafter made continuous losses. During 2008, NCDC assisted modernisation project was approved. As part of implementation of the project old ring frames were sold out and the capacity was reduced to 22336 spindles. Further in 2018, the spindle capacity was again reduced to 17563. A second phase NCDC assisted modernisation project has been approved by Government and is submitted to NCDC for approval. After completion of the project the mill will be equipped to produce value added products. The mill is producing both cotton and polyester single and double yarn and also supplying yarn for school uniform. The capacity utilisation is around 85% against the industry bench mark of 98.5% and 'p' gram is about 85 grams against the SITRA standard of 110 grams.

The mill has received an average annual working capital assistance of Rs.270.00 lakh from Government during the past ten years.

Working Capital Assistance received from Government is given below:

Year	Amount (in lakh)
2009-10	136
2010-11	31
2011-12	152
2012-13	717
2013-14	278
2014-15	100
2015-16	550
2016-17	270
2017-18	310
2018-19	89

The mill has a manpower strength of 233 and the average age of workers is 45 years. OMI is 66.63 and the average age of the machinery is about 15 years. Present level of modernization index of the mill is given below:

Blow room	Carding	Breaker Drawing	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
41.67	94.29	56	120	111.11	66.69	39.52	**66.63**

Considering the relatively lesser age of the machinery and better OMI, it is suggested to sustain the operations of the mill with the following interventions.

- To further improve the internal efficiency, one more Autoconer is proposed at a cost of Rs.200 lakhs.
- An amount of Rs.120 lakhs is required for immediate repairs and maintenance for the machines purchased earlier for improving machine productivity and product quality.
- It is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakhs, as a quality improvement measure, for testing the critical

quality parameters of cotton and yarn. Thus, a total amount of Rs.420 lakhs is required for improving the efficiency and productivity of the mill.

The financial performance of the mill for the past ten years is as follows:

Year	Operating Profit/ loss	Net Profit/ Loss
2009-10	-57	-303
2010-11	39	-259
2011-12	-401	-745
2012-13	-35	-503
2013-14	-211	167
2014-15	-284	-744
2015-16	-281	-791
2016-17	-330	-918
2017-18	-243	-893
2018-19	-284	-895

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	1 No.	200
2	Repairs & Maintenance	120	1 lot	120
3	Testing facility	100	1 lot	100
TOTAL				**420**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

With the above proposals, the mill can SUSTAIN its operations.

(vii) The Malabar Co-Operative Textiles Ltd. (MALCOTEX)

The Malabar Co-operative Textiles Ltd (MALCOTEX) is registered as a Co-operative Society under cooperative societies Act 1969 on 03.01.1994. Commercial production started in 1997 with new Generation High productive Machinery including two imported Autoconers. The Mill was originally commissioned with 6048 spindles. Present spindle capacity is 19296 Spindles. The NCDC assisted expansion programme to increase spindle capacity to 25,000 spindles is under progress. The mill is producing combed and carded cotton yarn. The current capacity utilisation of the mill is about 60% against the industry standard of 98.5% and the mill has to take serious steps to improve the same.

The mill has a manpower strength of 155 and the average age of workers is 43 years. The OMI is 77.25 and the average age of the machinery is 10 years. Present level of modernisation index is given below:

Blow room	Carding	Breaker Drawing	Comber	Finisher Drawing	Simplex	Ring Frame	Cone Winding	**OMI**
91.67	100	80	100	120	100	75.33	50	**77.25**

For the last one decade, the mill has received an average working capital assistance of about Rs.110.00 lakh. Working Capital Assistance received from Government is as follows:

Year	**Amount**
2010-11	472
2011-12	103
2012-13	56
2013-14	183
2014-15	51
2015-16	50
2017-18	20
2018-19	133

The financial performance of the mill for the past ten years is as follows:

Year	**Operating Profit/ loss**	**Net Profit/ Loss**
2009-10	-89	-340
2010-11	-51	-294
2011-12	-167	-402
2012-13	6	-236
2013-14	-83	-311
2014-15	-169	-440
2015-16	-82	-361
2016-17	-154	-479
2017-18	-235	-535
2018-19	-205	-572

Considering the age of machines and OMI, the mill can sustain operations with the following interventions.

- For improving the efficiency and productivity of the mill, one more Autoconer is suggested at a cost of Rs.200 lakhs.
- In addition to this, for improving machine productivity and product quality an amount of Rs.175 lakhs is required for immediate repairs and maintenance of the machines purchased earlier.
- As a quality improvement measure, it is also proposed to create a testing laboratory at an estimated cost of Rs.100 lakh for testing the critical quality parameters of cotton and yarn.

Proposals Suggested

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Autoconer	200	1 No.	200
2	Repairs & Maintenance	175	1 lot	175
3	Testing facility	100	1 lot	100
			TOTAL	**475**

The surplus land available with the mills can be used for setting up textile related greenfield activities directly or through Joint Ventures.

With the above proposals, the mill can SUSTAIN its operations.

(viii) K. Karunakaran Memorial Co-operative Spinning Mills Ltd

K. Karunakaran Memorial Co-operative Spinning Mills Ltd, earlier the Mala Co-operative Spinning Mills Ltd was established in 1994. The first phase of the project was proposed with 6000 spindles at a cost of Rs.805 lakhs. But the project was non operational till 2013-14. During 2013-14, Government released an amount of Rs.400.28 lakhs. The project was inaugurated during March 2016 with partial machinery. Further an amount of Rs.576.22 lakhs was provided by Government and the mill started commercial production during April 2018. The working spindle capacity is 5472.

The unit is a new one and the full capacity utilisation is being achieved progressively. The mill can sustain operations with the following interventions.

As a quality improvement measure, it is proposed to create a testing laboratory at an estimated cost of Rs.100 lakhs for testing the critical quality parameters of yarn and fabric.

Sl. No.	Interventions proposed	Unit value (Rs. lakh)	Quantity required	Total value (Rs. lakh)
1	Testing facility	100	1 lot	100
	TOTAL			**100**

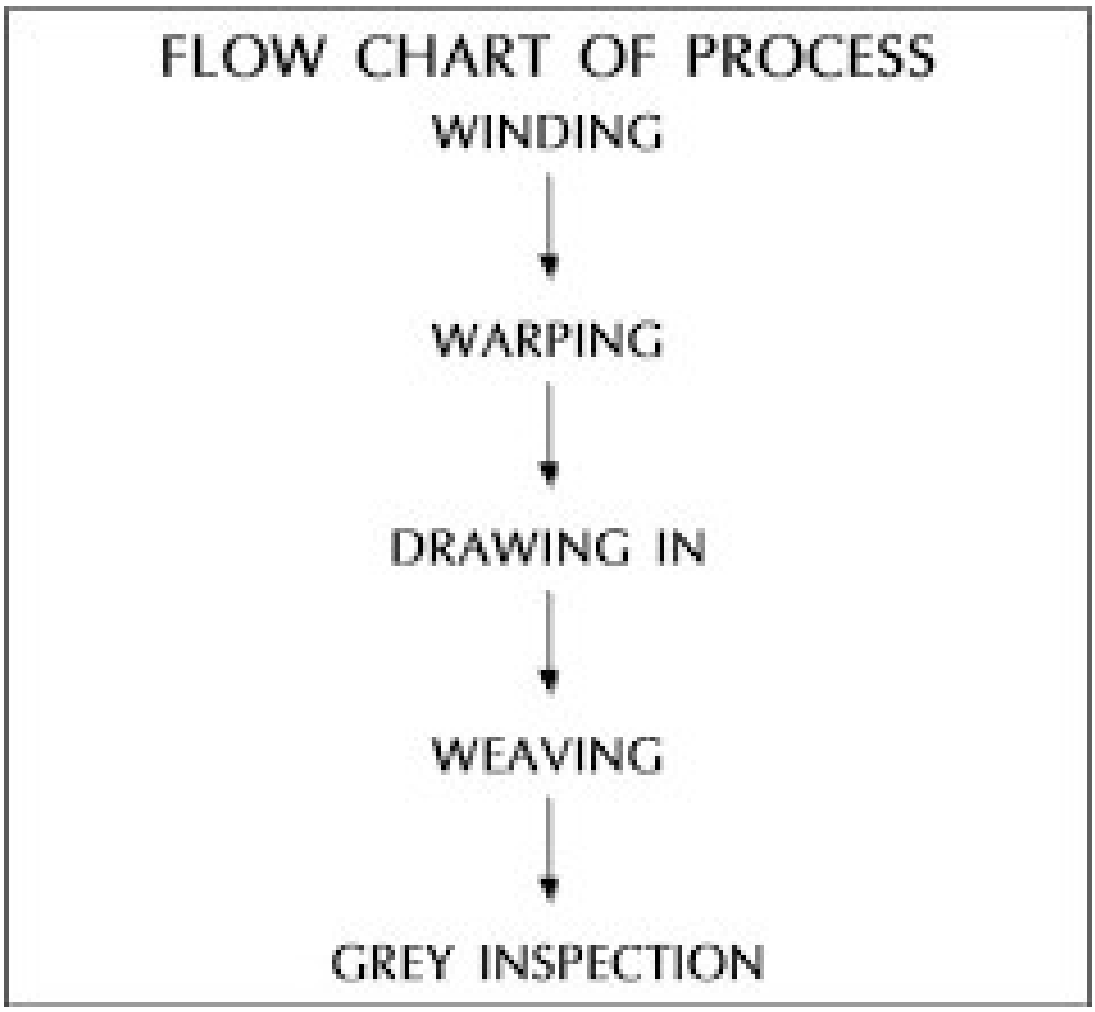
Total investment required for Spinning sector

Sl. No.	Mill	Interventions proposed	Quantity required	Total investment (In lakhs)
A	**PSU Mills**			
1	Uduma	Autoconer	1 No.	200
		Repairs & Maintenance	1 lot	25
		Testing facility	1 lot	100
		Combed process	1 set	650
2	Malabar Spinn0ing & Weaving mil	Autoconer	3 Nos.	600
		Repairs & Maintenance	1 lot	85
		Testing facility	1 lot	100
3	Komalapuram Spinning & Weaving Mills	Autoconer	3 Nos.	600
		Repairs & Maintenance	1 lot	65
		Testing facility	1 lot	100
4	Hi-Tech Weaving Mills	Testing facility	1 lot	100
	TOTAL (A)			**2625**
B	**Co-operative Mills**			
5	The Quilon Co-operative Spinning Mills Ltd	Autoconer	1 No.	200
		Testing facility	1 lot	100
6	Alleppey Co-operative Spinning Mills Ltd	Autoconer	1 No.	200
		Repairs & Maintenance	1 lot	165
		Testing facility	1 lot	100
7	The Priyadarshini Co-operative Spinning Mills ltd	Repairs & Maintenance	1 lot	200
		Testing facility	1 lot	100

8	Trichur Co-operative Spinning Mills Ltd	Autoconer	2 Nos.	400
		Repairs & Maintenance	1 lot	265
		Testing facility	1 lot	100
9	The Malappuram Co-operative Spinning Mills Ltd	Autoconer	5 No.	1000
		Repairs & Maintenance	1 lot	400
		Testing facility	1 lot	100
10	The Cannanore Co-operative Spinning Mills Ltd	Autoconer	1 No.	200
		Repairs & Maintenance	1 lot	120
		Testing facility	1 lot	100
11	The Malabar Co-Operative Textiles Ltd	Autoconer	1 No.	200
		Repairs & Maintenance	1 lot	175
		Testing facility	1 lot	100
12	K. Karunakaran Memorial Co-operative Spinning Mills Ltd	Testing facility	1 lot	100
	TOTAL (B)			**4325**
	GRAND TOTAL			**6950**

CHAPTER VI

WEAVING SECTOR



1. KHADI SECTOR

Khadi means “any cloth woven in Handloom in India from silk, cotton or woollen yarn, hand spun in India or from mixture of any or all of such yarn”.

There are mainly four types of Khadi - Cotton, Muslin, woollen and Silk. In addition to this there is also a variety called polyvastra which is produced in certain Khadi units. Polyvastra is a combination of polyester and cotton. The Khadi units can be mainly classified in to three - Units engaged in Spinning, Weaving and those engaged in Spinning and Weaving.

Payyannur Khadi centre, is the major Khadi production centre in the State. This unit was under the control of Tamil Nadu Government before the formation of the Kerala State. This unit came under the Kerala Khadi and Village Industries Board on 1-11-1959. After the implementation of the Special Employment Programme the Board has established the Departmental Khadi Productions units in all Districts. The departmental units in Kannur and Kasargod districts are under the control of Payyanur Khadi Center and other units are controlled by the District Project Officers. There are around 232 spinning centres and 154 weaving centres under the direct control of the Board and around 6000 artisans engaged in khadi production. The major products produced from Khadi Cotton are various types of Dhothies, Shirtings, Towels, Bed sheets, Bedspread, Uniform cloth and Other varieties.

A Cotton Processing Plant was also established at Ettukudukka in Kannur District for the supply of raw material viz; sliver to the Departmental units.

Fourteen Institutions financed by the Board and 14 directly aided by the Khadi and Village Industries Commission are engaged in Khadi activities.

Totally about 12000 artisans are engaged in Khadi production activities of which 11500 are women in Rural Sector.

Kerala Khadi and Village Industries Board is a statutory body constituted by Act 9 of 1957, vested with the responsibility of organizing and promoting Khadi and Village Industries in the State. The Board implements the programmes through co-operative, registered institutions, individuals and departmental units by imparting/ availing assistance from Government of Kerala, Khadi Commission and Nationalized Banks.

- Promotion of Khadi and Village Industries.
- Comprehensive range of support to Khadi and village industry entrepreneurs
- Marketing support to the beneficiary units of the Board.
- Co-ordination and monitoring of around 25000 units, which have, came up in Kerala with the assistance of Board.
- Providing training to potential entrepreneurs in various sectors including weaving and spinning, pottery, bee keeping and a host of other activities.
- Formulation and implementation of focused programmes and schemes for the revival of sick industries and units.
- Providing technical assistance to the upcoming units.

In order to materialize the objectives, Board has formulated various schemes and implemented them successfully.

Kerala Khadi & Village Industries Board aims the creation of employment opportunities with comparatively minimum capital investment mainly in Rural areas of Kerala with focus on women and other weaker sections of the society by making use of locally available raw material, skill and eco-friendly methods of manufacturing. Similarly, creating sense of self-reliance among the rural people with rural people with transparency, responsiveness and prompt action on queries/request from the public is also our mission.

Welfare measure

The Government of Kerala gives full support to the Khadi sector in extending welfare measures to the Khadi artisans. The State Government have constituted a separate Board viz. Kerala Khadi Workers Welfare Fund Board which is unique in the country. The State Government extends financial support in the form of contribution to the Fund. The Welfare Fund Board has three regional offices for its smooth functioning. Every artisan who has worked as a Khadi worker for a period of 240 days is eligible for membership to the fund.

Village Industries Programme

Kerala Khadi and Village Industries Board had established and financed several Village Industries Units through the Co-operative Societies, Charitable Institutions and Individuals etc, with the financial support of Khadi and Village Industries Commission and Government

In this study, only Khadi Textiles-Weaving is taken into consideration.

Khadi Looms in Kerala

Installed	2630
Working	1905
Non-Working	455

Production Centres

KKVIB	426
KKVIB	8
Total	434

(source: The Directorate, KKVIB)

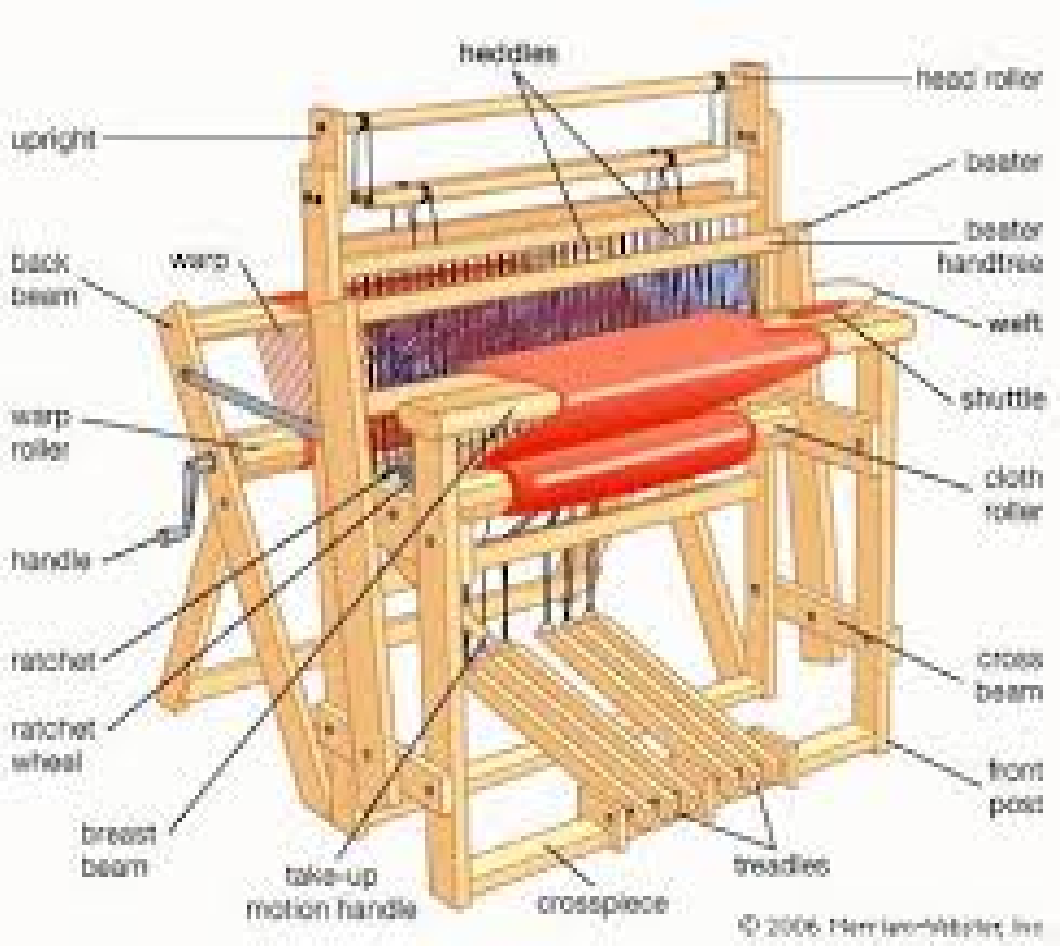
Interventions proposed

It is suggested to make fabrics of premium value addition instead of producing conventional fabrics and competing with powerloom fabrics. It is advised to promote and sell "KHADI". Necessary campaigning can be organised for this. So that a premium for "KHADI" is gained. So it is of better approach to weave silk sarees with motif design (jacquard weave) and dress materials and shirts woven from silk yarn.

It is proposed to increase the loom capacity in the state by atleast 20% by adding 526 looms. Thus the existing capacity of 2630 looms is to be increased to 3156 looms at a`cost of Rs.263 lakhs. The cost of setting a new loom is estimated as Rs. 50,000/-. The 455 non-working looms are also to be made operational. The estimated requirement for reviving the looms would be Rs. 45.50 lakhs (Rs. 10,000 per loom).

Hence an amount of Rs.350 lakhs is suggested for Khadi sector for the augmentation of looms by 20% and also for a working capital support of about Rs. 40.00 lakh for the purchase of silk yarn (raw material). This would be creating an additional employment of about 1000. It is also proposed to provide an amount of Rs.200 lakhs for "KHADI" campaign.

2. HAND LOOMS



India exported about 95 per cent of hand-woven fabric in the world in 2017-18, which is approximately USD 355.91 million (7701 million square metre). Handloom covers one of the largest sectors in Indian economy and it provides employment to about 43 lakh weavers.

Kerala has 14 districts stretched from Thiruvananthapuram in the southern end to Kasargod in the northern end. Even though the handloom industry is spread in all the districts of the state, it is concentrated in certain important clusters. The southern Kerala or the Travancore region is famous for its superfine cotton

products, like Sarees, Dhothies and 'Set mundu' etc. The middle part of Kerala, the Cochin region is also engaged with such products. But while going to the northern belt of Kerala, also called Malabar region, the main production is of coarser varieties like furnishing materials, bed-spreads, towels etc. The common products in all the clusters are 'Thorthu' (Bathing towel) and Lungies.

The major handloom clusters of Kerala are Balaramapuram /Thiruvananthapuram of the Travancore region, Koothampalli and Chendamangalam of the Cochin region and Kannur, Kasargod and Kozhikode of the Malabar region.

Thiruvananthapuram / Balaramapuram

Balaramapuram, in Thiruvananthapuram district is one of the most historically important places for fine cotton handloom fabrics in Kerala. The weavers belong to the Saliya community were migrated from Nagarcoil and Thirunelveli of the present Tamil Nadu. They produced super fine 'Mundum Neriyathum' for the need of the Travancore royal family. (Mundu: A loin cloth or say Dhoti used to cover the lower part of the body. Neriyathu: A fine textured cloth used to cover the upper part of the body.) The technique of producing the superfine fabric spread from them to the local weavers in Balaramapuram and the surrounding places of the Thiruvananthapuram district. Initially they were producing 'Mundu' for men with 0.4cm of width of 'kara' (cross border) with black garn. Even before 100 years the Zari from Surat were brought to Balaramapuram and 'Kasavu Sarees' production was started.

Koothampalli (Thrissur District)

Koothampalli in Thrissur district is also well known for handloom weaving. The Devangas immigrated from Karnataka state are engaged in the weaving activities here. The 'Kasavu Sarees', which are being produced here, is mostly with half-

fine zari. The middle class people are normally the consumers of these types of the sarees because of its cheapness. The price of a saree can be reduced by about 80 per cent by using half fine zari instead of the pure zari.

Chennamangalam (Ernakulam District)

Chennamangalam, in the Ernakulam district is also an important handloom centre in Kerala. This cluster mainly concentrate on the production of traditional items such as setmundu, thorthu, kavani, set sarees, dhotis, and so on. The distinction of these fabrics is in its structure in the plain structure, they have producing a special effect in weft direction.

Kannur (Kannur District)

Kannur – the land of looms and lores- is situated towards the northern part of Kerala, popularly known as the Malabar region. The evolution of the industry in Kannur and surrounding areas can be traced from the records of the Basel Mission Activities. Legend also exists that the Chirakkal Rajas of Kannur brought weaver families from the traditional weaving communities of Saliya from other regions and settled them in colonies. Though Basel Mission commenced its activities in India in 1834 at Mangalore, weaving was taken up only in 1844. Weaving establishments in early days were attached to the Mission house itself. Later establishments were started at Kannur (1852) and Calicut (1859).

By 1913, both these establishments had huge complexes with over 600 workers each. In 1911, for better management, these were merged under the name Basel Mission United Weaving Establishment. It was Basel Missionaries who introduced frame looms in Kannur. Also the introduction of fly shuttle looms, jacquard looms (1872) by the missionaries helped the weavers of Kannur widen the range of their products. They were mainly tablecloths, napkins, handkerchiefs, cotton check shirts, superior damask linen and so on. Later, furnishing and upholstery fabrics for which the industry is now well-known came

into being. It became more and more specialized in export-oriented production. The Basel Missionaries also pioneered the introduction of the concept of integrated handloom factories, which is still predominantly in vogue in this region.

The uniqueness and speciality of the furnishing fabrics from Malabar region is the excellent structure and texture of the cloth, unique colour combinations, wider width (98"-120") and craftsmanship. Handloom cloths of excellent qualities were exported to Asian and European countries through Vascoda Gama, the Portuguese navigator who visited Calicut in Malabar in 1498, much before the arrival of the British in India.

Kasargod (Kasargod District)

Kasargod the northern most district of Kerala is a traditional handloom cluster famous for Kasargod Sarees. Kasargod and Mancheswaram are the main handloom weaving centres of this cluster. Kasargod sarees, the masterpieces made with high quality yarn using traditional hand-made methods, are very famous in Kerala and has very good demand for the silk sarees woven with different colour patterns, designs and ornamented with zari or borders. The weaving is done in a unique style by giving care to the thread and hence they are very strong and prevent fading of the colour. These kind of handwork and style cannot be seen anywhere in India apart from Kasargod sarees.

Details of Hand Loom Co-operative Societies under Directorate of Handloom & Textile*

Registered Handloom Societies under DHT		626
Working Societies		384
Registered Looms		29139
Working Looms under Co-operative Societies		**10288**
Looms given to Individuals		
Self-Employment Scheme	500	
Yuva Weave Scheme	300	
Loom a House Scheme	461	
Individual Weavers under Hanveev	1750	
Total Working Looms		**13299**

**Details based on Data collected from Directorate of Handloom & Textiles*

Details regarding power loom and handloom owned by private parties are not available. However, it is estimated that there are around 500 power looms owned by private parties.

Kerala has about 13300 handlooms and employs about 32500 workers. Handloom weavers are struggling hard to make both ends meet. The main reason being that the cloth styles woven in the handlooms are not of value added but of commodity. Weaving a me-too product with below par productivity levels cannot compete in a market which can easily be substituted by a powerloom product with lesser cost of production.

As per the latest data the textile goods worth about Rs.1,500 Crore are sold in a month in Kerala (assumption). The per capita consumption of garment / cloth of

an average Keralite is 34 meters as against the all India average of 16 – 17 meters.

This means that about Rs.15 Crore meter of fabric per month is getting sold as apparels and made-ups of different forms and fashions. Monthly production of about 12,15,000 meters of handloom fabrics (less than 1.5%) woven in the state do not have captive consumers.

WHY?

Cost of production is significantly higher because of very low machine and labour productivity. This coupled with the mundane and traditional weave design makes the handloom fabrics unattractive.

The Interventions proposed

- Handlooms have to be modernized in line with the contemporary technological developments. In this context, Tamilnadu model can be adopted for effortless weaving.

- In addition, handlooms can be equipped with electronic jacquards and silk Sarees can be woven in line with Kanchipuram silk Sarees and also the practices in Varanasi can be adopted and these can be branded in line with Kerala's tourism tag.

- Handlooms have to move from producing the me-too products to value added products. For capitalizing this space, proper Market Research is required and for this, relevant agencies like NIFT (National Institute of Fashion Technology), NID (National Institute of Design), SASMIRA (Synthetic and Art Silk Mills Research Association) etc. can be entrusted for the same and to bring in contemporary designs and fashion, so that the

livelihood of handloom weavers can be improved and handloom weaver can earn a minimum man-day wages of Rs.1000/-.

- High value traditional handloom fabrics can be woven with GI (Geographical Indication) tag and the same can be marketed with celebrity brand ambassadors.

A Geographical Indication
- ✓ is a sign/indication on goods
- ✓ Associated with a specific geographical region
- ✓ possess unique qualities or reputation arise out of that place.

Key attributes of GI are
- ✓ Uniqueness
- ✓ Quality
- ✓ Reputation

Registration under GI Act.
- Part A: Registered proprietors

  Any association of persons, producers, organisations or authority established under the law
- Part B: Authorised Users

  Individual producers, artisans, users of the registered products.

Most commonly, a geographical indication consists of the name of the place of origin of the goods

- Kasargod Sarees
- Kannur Home Furnishings and Dress Materials
- Kuthampally Sarees
- Chendamangalam Dhotis & Set Mundu
- Balaramapuram Sarees & Fine Cotton Fabrics

Handloom and GI tag need be promoted and premium for the tag be obtained by appropriate propaganda.

As a promotional activity for GI tag handloom fabrics, it is suggested that an amount of Rs.50 lakh is recommended for each GI tag. So, a total amount of Rs.250 lakhs is required for this.

In handloom sector, preparatory & processing is an issue in Kerala. In other States, street warping and sizing, open drying after processing on the road side, hand dyeing using local vessels, preparatory and processing by involving all the members in the house etc. are done as a routine practice. However, in Kerala, this is not been done for various reasons including environmental issues. Therefore, the existing processing houses held by the Government agencies like HANTEX and HANVEEV need be revived. It is also suggested that the processing houses can be given on lease to the end users/ private players with a condition that the priority should be for supporting handloom sector.

3. POWERLOOMS – Conventional

Details of Power Loom Co-operative Societies under TEXFED

Sl. No	Name of Society	No. of Looms Installed	No. of looms Working
1	Neyyaatinkara Taluk Integrated Powerloom Village Ind.Co-operative Society Ltd	200	32
2	Kottayam Intergrated Powerloom Ind. Co-operative Society Ltd	232	66
3	Kerala Hi-tech Textile Co-operative Limited	17	17
4	Calicut Integrated Powerloom Ind. Co-operative Society Ltd	53	45
5	Wayanad Handloom Powerloom & Multi purpose Industrial Co-operative Society Ltd	60	27
	Total Powerlooms	**562**	**187**

Details of Power Loom Co-operative Societies under Directorate of Handloom & Textile

Registered Powerloom societies under DHT	41
Working Societies	20
Registered Powerlooms	1036
Working Powerlooms in KSTC Mills*	66

*Hi-Tech Weaving Mills & Komalapuram Spinnning and Weaving Mills)

Kerala has 562 conventional powerlooms in five co-operative societies spread across the state from Neyyattinkara to Wayanad and 66 unconventional powerlooms under Kerala State Textile Corporation Limited. By including the private players and unorganized sector under the control of DHT, the total number of looms would be about 1100.

Daily production of a power loom for a given variety of a fabric is about 30 meters. So, the monthly output of cloth from 1100 looms will be about 10,00,000 meters. However, less than 30% is being utilised.

The captive consumption of the quantity of powerloom fabrics is very less because of the inability of the design of the fabrics to compete in the open market and also the increased cost of production.

In Kerala, currently less than one third of the looms are only working and that too are not profitable. It is suggested to provide price preference and quantity preference by Government for this sector for its fabric requirement, for example, uniforms by different departments. This sector can also be made attractive for the private players by giving them existing infrastructural facilities of co-operative societies under the control of TEXFED at concessional rate.

It is also suggested to supply yarn spun from Government controlled spinning mills to this sector through an appropriate centralised pricing mechanism.

The Interventions proposed

- Powerlooms have to be modernized in line with the contemporary technological developments, like
    - ✓ Electronic warp stop motion
    - ✓ Electronic weft stop motion
    - ✓ Bigger shuttle box
    - ✓ Solar panel power etc.
- Powerlooms can be made use of for the captive consumption of yarn (inclusive growth) being produced by the spinning mills of the state, for
    - ➢ Hospital bed linen
    - ➢ State forces' uniform requirement

- School uniform

- If the powerloom sector could not cope up with the heat of the competition, then it is proposed to scrap the conventional powerloom to Hi-speed (unconventional) powerlooms (air-jet looms) with a minimum of about 45 looms in a given weaving society at a per loom cost of about Rs. 25 lakh, thus costing about Rs.1200 lakh. So for 4 weaving societies under TEXFED, the investment would be around Rs. 5000 lakhs

- In order to cater the needs of Sizing and warping requirement for the above said 4 societies, it is suggested to create TWO common facilities centres in Kottayam at a cost of about Rs.2000 lakhs and another at Naduvanoor, Kozhikode at a cost of about Rs.3000 lakhs. Total cost would be Rs. 5000 lakhs.

- The said modernisation program is proposed to be implemented with NCDC fund.

The budget allocation for handloom/Khadi/Powerloom should be in line with the proposals suggested in the report.

CARRY BAG – AN EMERGING OPPORTUNITY

According to the Wall Street Journal, only 1% of plastic bags are recycled world-wide, the rest are left to live on indefinitely landfills. The average reusable cotton bag has the lifespan of over 700 plastic bags. The eco-friendly cotton bags cause no pollution to air.

There are states which have totally banned plastic carry bags below 50 microns. At national level, Government of India is discouraging the use of plastic bags. The State Government also is discouraging use of plastic bags. In these circumstances, it is an emerging opportunity within the country. Internationally also plastic bags are being banned in the developed countries. Therefore, it is found that this is the right opportunity to enter into cotton carry bag manufacturing.

People may be reluctant to use cotton carry bags because of the initial cost. However, most of the shops are charging now for plastic carry bags between Rs.5 –10 whereas a cotton carry bag will cost Rs.30/-. Cotton carry bags can be used for 12 to 15 times whereas plastic carry bags can be used for less than 5 times. Hence economically also cotton carry bags is advantageous.

For a state like Kerala, which has an increased awareness on Global warming, use of cotton carry bags in lieu of plastic carry bags gains more relevance.

Market size at Corporation level

If each of the corporations have an annual budget of Rs.50 lakhs for the issue of carry bags to the public, for about 5 corporations, the amount would be Rs. 250 lakh. Thus the total production of carry bags for Corporations would be Rs.12.50 lakhs. For a 54" loom width fabric, a meter of cloth will yield 3 carry bags. This implies that a length of about 4,16,600 linear meter of fabric is required. A loom can produce about 38 meters of cloth in a day for carry bags. Annually, with 300 working days, a power loom can produce about 11,400 meters of cloth. Thus, requiring about 37 looms (quantity assumed).

The raw material is either cotton / polyester cotton blend yarn or cotton / blended fabrics. Cotton / polyester cotton yarn can be obtained from the spinning mills of Kerala under state Government control. The count required is 20s Warp & weft yarn that will be sourced from one of the Ring spinning mills.

4. POWERLOOMS -Un-Conventional [Hi-Tech Looms]

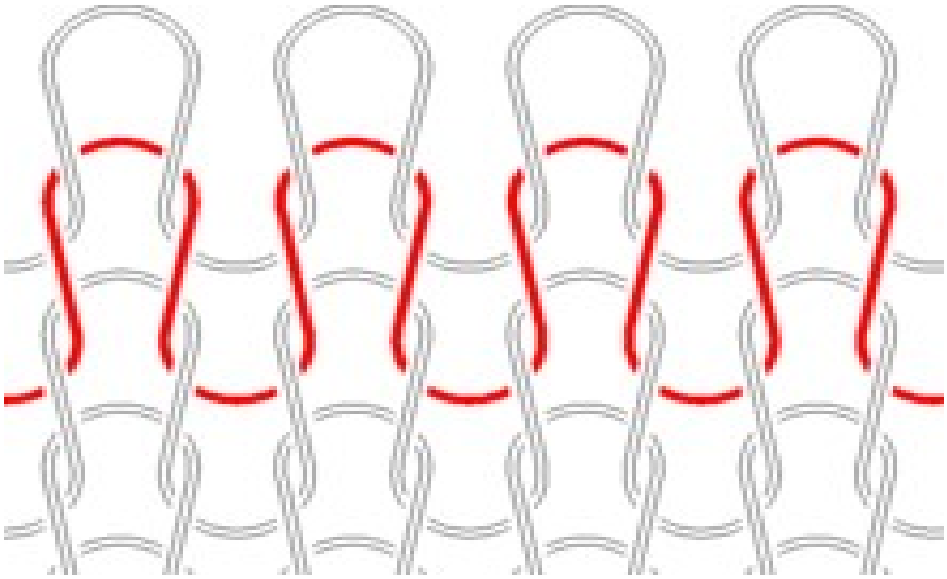
The state has a market size of Rs.1500 Crore worth of Apparels and Made-ups per month. About 15.00 Crore meter cloth is getting traded per month. All the fabrics are woven by unconventional powerlooms. Even if it is assumed that 50% of the demand is catered, the meterage of cloth will be 7.50 Crore per month which works out to the installation of about 10,000 looms each producing about 350 meters per day.

A typical latest unconventional powerloom with the back process machinery required thereon, would be costing about Rs. 50.00 lakh per machine. So, for 10,000 looms the cost of machines would be about Rs.5000 crores and together with building and other accessories the total cost would be about Rs. 7500 crores.

Creating such a big facility at a time is not considered practically feasible and so it is proposed to build a contemporary weaving facility with 2500 looms with an investment capital of Rs.1500 crores and that too with private participation.

CHAPTER VII

KNITTING SECTOR



Like weaving, knitting is a technique for producing a two-dimensional fabric made from a one-dimensional yarn or thread. In weaving, threads are always straight, running parallel either lengthwise (warp threads) or crosswise (weft threads). By contrast, the yarn in knitted fabrics follows a meandering path (a *course*), forming symmetric loops (also called bights) symmetrically above and below the mean path of the yarn. These meandering loops can be easily stretched in different directions giving knit fabrics much more elasticity than woven fabrics.

Depending on the yarn and knitting pattern, knitted garments can stretch as much as 500%. For this reason, knitting was initially developed for garments that must be elastic or stretch in response to the wearer's motions, such as socks and hosiery. Knitted garments are often more form-fitting than woven

garments, since their elasticity allows them to contour to the body's outline more closely.

Kerala was having quite a few Knitting Mills, in Government and Private sector, about 2-3 decades back. But now the state does not have any known players, except KITEX, Ernakulam. The company has positioned itself as a pioneer in KIDS knitted wear, internationally. The main reason for this is the timely adoption of technology, the main differentiating factor, that has not happened in the state.

Tirupur, the knitting city located near Coimbatore, Tamilnadu, is so matured in Knitting process and has established itself in the industry for more than three to four decades. Creation of knitting sector is not considered in this study due to the proximity of Tirupur to Kerala.

CHAPTER VIII

WET-PROCESSING AND FINISHING SECTOR

As it can be inferred from the Value chain of Textile Industry, this sector is an important, value adding and critical one.This sector is important because it gives the flexibility in value addition and critical because it is connected to one of the depleting natural resource, water, and its pollution thereon.

Nowadays, wet processing projects can be designed for a maximum of 90% water recycling from the ETP (only 10% evaporation loss) and ZERO pollution of water through ZLD (Zero Liquid Discharge) ETPs. Today's typical complete wet processing project with a capacity of 1,00,000 meters per day would be requiring about 8.25 litres per meter of finished cloth which is almost three times lesser when compared to the old technology. A typical wet processing project with a capacity of about 20 TPD (Tonnes Per Day) would be costing about Rs.6000 lakh with a pay back period of about 5-7 years as against 10-15 years for a typical spinning project.

In Kerala, there were major units in Wet processing, like

1. Sitaram Textiles Limited, a pioneer in Uniform Cloths Dyeing, Trissur

   The Company was started in the year 1903 by the late Shri Balarama Iyer in the name of Sitaram Spinning & Weaving Mill. Initially started with weaving and gradually forayed into spinning and processing. During the initial stages, the unit was functioning well and gradually Labour and financial problems cropped in and the unit was closed.

   In the year 1972, Government of Kerala by Public auction took over the unit. After taking over the unit, the name of the unit was changed as Sitaram

Textiles Limited and the date of incorporation is 14-02-1975. There after the unit was functioning as fully owned Government of Kerala Undertaking under the administrative control of Industries Department focussing only on Spinning

2. Parvathy Mills, a unit of National Textile Corporation Limited, Kollam was a known name in Apparel Dyed fabric - ENTYCE

   Parvathi Mills Limited is a textile manufacturing company owned by the National Textile Corporation (NTC) in Kollam. The company was founded in 1884 by British citizen A.D. Cotton and was the lifeline of Kollam before independence. This mill was taken for rent for running by a Tamil entrepreneur after Independence as the land was owned by the Kerala State Textile Corporation at that time. It was later handed over to the NTC. The company has 120 employees, six of which are NTC staff and 17 are casual workers.

   The land was handed over to National Textile Corporation in 1974. The NTC planned to privatize Parvathy Mills in 2005. The plant was added by the Board for Industrial and Financial Reconstruction who had listed it for revival in 2002. The plan was dropped after protests by the Parvathy Mills Workers Union.

   Like many other mills in Mumbai, Coimbatore, Ahmedabad, Aurangabad, Akola, Naini, Jaipur and Udaipur, Parvathy Mill was also slated for redevelopment and modernisation in 2007 and 2012. But modernisation projects were not implemented and the mill was closed down in 2008.

3. Common Wealth Handloom Weaving Factory (COMTRUST), Kozhikode was a leading supplier to British Airways Upholstery cloth. The factory was

built by the German Basel Evangelical Missionaries in the year 1844. It was later when the British seized it from the missionaries that it was renamed Comtrust (England) in the year 1919. The factory which is 169 years old was handed over to a private party, but due to repeated protests, the government decided to take charge.

The factory was shut down on February 2, 2009.

4. Chakolas Spinning & Weaving Mills Private Ltd, Ernakulam, was a pioneer in bleached mull cloth. Chakolas Spinning & Weaving Mills Private Limited is a Non-government company, incorporated on 31 Jul, 1957, with an authorized capital of Rs. 100 lakhs and paid-up capital of Rs.38 lakhs. Due to various business reasons, the unit is now non-functional.

Presently the state does not have a single wet processor of repute. This is basically because Wet processing is the unacceptable industry in Kerala due to the environmental issues involved in it. Even though the modern wet processing industry can better be managed without affecting the environment with ZERO LIQUID DISCHARGE (ZLD), the awareness level in our state is below average and it would take some time to get educated on the same.

Because of the relatively higher cost of investment and negative mind set of stakeholders, no new investment is coming up in this vertical in the state.

Hence it is suggested that the following Government controlled processing centres which are in existence can be revived /leased to private players:

1. KINFRA Textile Centre, Nadukani

   The Textile Centre, part of a planned Textile Town, is set up at a cost of Rs.45 crores, of which the State government's contribution was Rs. 20 crores. The centre has the following facilities:

- A wet processing plant for dying and winding
- A common effluent treatment plant
- Bonded warehouse
- Water harvesting pond
- Hazardous waste treatment plant
- A standard design factory

The dyeing and winding plant is set up at a cost of Rs. 24 crore, with the ASIDE scheme of government of India. The plant can process 15 tonne yarn and 70,000 metres of fabric a day. It is meant for the use of the units within the park but can be accessed to by outside units also depending on the availability of slots.

The common effluent treatment plant that can treat 750 cubic metres of effluents a day will be a boon for the units. A standard design factory of 1.24 lakh square feet is an important component of the project. This will be open to units in the textile sector including garment manufacturing. About 30 acres of land at the Centre has been reserved for setting up weaving units.

2. HANVEEV Processing Centre, Kannur
   This processing centre has the capacity for bleaching, dyeing, and printing of about 1000 kgs of cloth per day.

3. HANTEX Processing Centre, Papanamcode
   This processing centre has the capacity to process 1500 kgs of cloth per day. The centre is equipped for bleaching, dyeing and calendering.

4. HANTEX Processing Centre, Balaramapuram

   The centre has the capacity to process 1500 kgs of cloth per day. The centre is equipped for bleaching, dyeing and printing.

5. Naduvannur Co-operative Society

   The centre has the capacity to dye about 300 kgs of hank yarn and 750 kgs of cone yarn Per day.

From the above, it can be inferred that all the private composite mills with spinning, weaving, processing facilities were closed first. Subsequently, all the public sector composite mills also were gradually closed. All the small processing facilities available for handlooms and powerlooms also came to a closure. The reasons gathered are shortage of quality water, environmental issues, effluent disposal and manpower to work where hazardous materials are handled. In the circumstances, no new processing facility is suggested except the revival of existing traditional facilities.

CHAPTER IX

NON-WOVEN (TECHNICAL)

Inch forward in the non-commodity textile sector, i.e., technical textiles sector from a non crawling phase to at least a crawling industry in the next three years. General awareness has to be created with holding workshops and conferences. These conferences are of less use if they do not translate into investments and new projects. This aspect has been slow. Why is it so? Although the awareness on the broad-based technology know-how and end products has been created, no awareness has been created among industrialists on the marketability of non-commodity textile products.

Creating greater awareness on the marketing of technical textiles is the need of the hour. This should include:

- What will be the growth?
- Who are the global leaders?
- Whom to approach to sell globally and
- Where to go and sell?

Technical Textiles can be of

- Warp knitted fabrics
- Non-woven fabrics
- Speciality woven fabrics with special finishes

In this sector, the immediate opportunity for the entrepreneurs of Kerala is to buy the technical textile materials (non wovens) and to make the end-use products by establishing converters, as a business

For example, if an entrepreneur wants to make wound dressing material, then he has to get the required technical textile material in bulk as per his marketing plan and then with the help of 'CONVERTER', the bought material has to be processed according to the size, thickness and length. The converted material has to be delivered to the customer.

Instead, trying to produce the technical textile material (say, needle punched non-woven sheet) by establishing a non-woven production plant is not advisable to start with because of the increased production, even for a small plant.

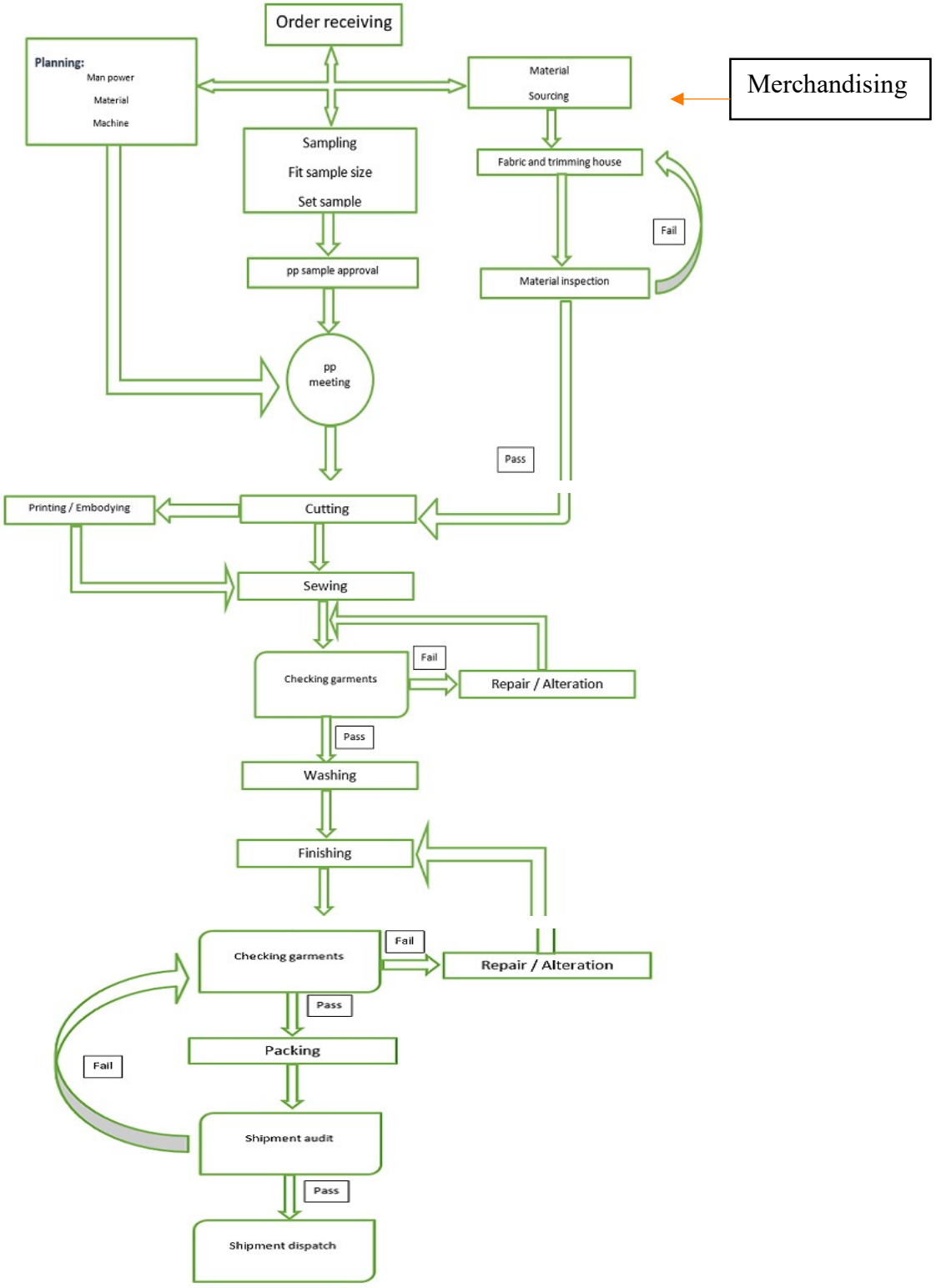
CHAPTER X

GARMENTS & MADE UPS SECTOR

The global apparel consumption is forecast to grow at a CAGR of 4 per cent and reach $2.6 trillion by 2025. Market growth rate of developed countries is expected to slowdown whereas large emerging economies will be the key drivers of growth. China and India, with a large population base, will be the fastest growing markets in the segment.

Apparel consumption in 2017 is estimated at $1.8 trillion, which formed around 2 per cent of the world GDP of $79.3 trillion. EU-28 was the largest apparel consumer market worth $400 billion, which was followed by markets of the USA, China, and Japan. These top four markets together constituted approximately 59 per cent of the global apparel consumption. The next four largest markets were India, Brazil, Russia, and Canada, accounting for an additional 11 per cent share while the rest of the world held 30 per cent share. It is expected that over the next decade, domestic apparel market of India and China will attain high growth rates of 11 per cent each, to add a cumulative market size of $393 billion by 2025.

Garments production process flow chart



Garment Industry – An overview

India is the second largest manufacturer of garments after China. India is known for its high quality garments for men and most of the garment manufacturers are in the Small and Medium scale industry.

Garments sector is the only sector in the Textiles value chain that employs high manpower against investment even adopting the latest technology. This sector comprises of made ups, knit garments etc. Ready made involves various segments like gents & ladies dresses, ceremonial dresses, formals & casuals, event dresses etc. The potential of this sector is very high in the State but Kerala has not explored it. Currently import of readymade is very low. Kerala market is being catered from other states. There is large export opportunity for garments and this is now benefitted by export houses in other States.

The major advantages of this sector are it operates mostly in day shift giving opportunity for increased women employment. The ambience is significantly better when compared to other sectors with respect to air pollution, power, space, investment, employment generation etc. The attitude of consumer has changed from tailor made to readymade concept. These are the positive aspects which are well suited for the state of Kerala where the workforce is relatively better educated and more knowledgeable.

Proposed model for Garment Sector in the State

The successful and sustainable Business Model suggested for Garment sector is to promote Garment manufacturing as a start-up activity.

Start-up activity

Start-ups are high-risk businesses featuring a product or service that is aimed at fulfilling a specific need in the marketplace. Most of them are technology-oriented and focused on growth potential.

A start-up is a company or project initiated by an entrepreneur to seek, effectively develop, and validate a scalable business model. A startup is a company that is in the first stage of its operations. These companies are often initially bankrolled by their entrepreneurial founders as they attempt to capitalize on developing a product or service for which they believe there is a demand. It is a young company to develop a unique product or service and bring it to market. The typical startup tends to be a shoestring operation, with initial funding from the founders or their families.

Entrepreneurs seek advice from mentors in creating startups. Mentoring offers direction for Entrepreneurs for the purpose of enhancing their knowledge along with the enhancement of their real-time skills. With the key learnings from market and design thinking, an entrepreneur can design a business model. The most important task at first is to build something people want.

Thus in a Start-up, entrepreneurs desirous of Starting a new business are provided effective guidance for setting up a business activity. This can be done through Incubation Centres.

Garment industry is one of the major industry for start-up business. Readymade garments industry is increasing day by day due to changes in fashion in day to day life.

Incubation centres

Incubation centres create an integrated workspace and entrepreneurial ecosystem for start-ups. This would increase the chance of success of start-ups and decrease the costs required to start a business. The incubation centres provide a handholding support to the entrepreneurs in the initial stages of business development. Incubator support includes providing technological facilities and advices, initial growth funds, network and linkages, co-working spaces, lab facilities, mentoring and advisory support. These centres help the entrepreneurs to become successful entrepreneurs and it also helps to thrive the business in the long run.

Considering the potential of apparel sector to contribute to jobs and export eamings, Government of India have been taking necessary measures to strengthen the apparel industry. For every Rs 1 lakh invested in the apparel industry, an average of 7 additional jobs is created. Therefore, there is a need to promote the apparel manufacturing industry, for creation of employment, increasing export earnings etc

First generation entrepreneurs and startups in the apparel industry face a number of challenges such as lack of capital for investment in land, buildings and machinery, limited access to funding, competition from established players and operational inefficiencies due to lack of experience and expertise. Therefore, there need to be a mechanism for the creation of a holistic ecosystem for promoting entrepreneurship in apparel manufacturing that would address the constraints and help entrepreneurs to setup successful apparel manufacturing businesses. Thus the scheme for setting up Incubation centres emerged.

The main objective of Scheme was to create an integrated workspace and linkages based on entrepreneurial ecosystem for startups in the apparel industry.

This eco-system would increase the chance of success of startups and decrease the time and costs required to and grow a new business.

Successful apparel businesses incubated in these incubation centers would thus Promote entrepreneurship, create additional manufacturing capacity and Generate additional employment opportunities.

An Incubation Centre can be a sampling unit and a mini production centre. Incubation centres should be fully equipped with all facilities for garment manufacturing with latest technology machinery thus enabling the budding entrepreneurs to fully understand the operational and technical aspects of Garment sector. Government should create conducive atmosphere by providing ready to use workspace with specialised sewing machines, ancilliary equipments, finishing equipments and other necessary common facilities to the entrepreneurs and also should promote the same through better policy initiatives. The entrepreneurs should also be given Training and Mentoring in areas of Skill Development, Entrepreneurship Development and Product Design Development.

It is suggested that initially, Government shall create Five Incubation Centres. More centres can be established depending on the number of entrepreneurs to be trained. The entrepreneurs desirous of starting new garment units in the State are to be initially groomed/supported in the incubation centres. Each centre can train 3-6 incubates at a time and the maximum period to groom an entrepreneur should not exceed more than 18 months. The estimated cost of one incubation centre is Rs.100 lakhs. The infrastructure facilities now available with the spinning mills can be used for this.

After initial training, the entrepreneur should source order for the products proposed to be manufactured. Sample orders are to be produced /manufactured

in these incubation centres. Thereafter the incubation centre should support the entrepreneur for trial order production. Bulk production of this product is to be done in new units set up by the entrepreneurs. It is envisaged that during this period the entrepreneur shall have acquired the capability and skills to independently operate his own venture.

The incubate should be equipped to start new units with the technical and business knowledge acquired from the incubation centre. Government shall provide capital support/ assistance for setting up new units and also provide incentives during initial stage.

It is also proposed to conduct Entrepreneurship programmes, inculcate entrepreneurial spirit and identify prospective entrepreneurs through the Engineering colleges, Arts & Science colleges, Polytechnics, Industrial Trade Centres (ITIs) and Vocational Higher Secondary Schools. Proposed entrepreneurs may be identified from such educational institutions and they need be given training for entrepreneurship development. These entrepreneurs are to be divided into separate groups and each group may be entrusted with the task of setting up new units after giving on-the-job training in incubation centres.

Such identified 'to-be entrepreneurs can be groomed in incubation centres by exposing them on the real-time business activities and thus making them 'budding entrepreneurs. They may also be given opportunities to participate in Garment and Textile fairs. The incubation centres have to be fully controlled and managed by a Government agency. Incubation centres can be networked with NIFT (National Institute of Fashion Technology), ATDC (Apparel Training and Design Centre) and/or similar design service agencies for designing and other techno-commercial activities of Garment making. Tirupur's Knowledge Capital can also be leveraged through Tirupur Export Association (TEA).

Cluster/Umbrella model

It is also proposed to establish Garments units in cluster/Umbrella model.

"Cluster' generally refers to a geographical concentration of vertically or horizontally linked firms engaged in related lines of business together with supporting organizations such as banks, suppliers, Business member organizations etc. Clusters are specific area with units producing similar/dissimilar products which are related to skills technologies, common inputs, suppliers etc. A cluster allows units to operate more productively in sourcing units, accessing information, technology and motivates improvement.

The industrial structure in the garment industry is rather complex. The bulk of the units are small and medium-sized firms. A study by Apparel Export Promotion Council (AEPC) in 2009 has estimated that 95% of the production is in the top 19 clusters. Hence it is suggested that the new units may be set up in clusters.

On successful completion of training and after acquiring adequate knowledge from the incubation centres, entrepreneurs can start their new units in clusters. These units may be production units or assembling units. The productions unit should be set up in and around the clusters. ***Each unit can be equipped with 100 stitching machines*** and one machine can provide total employment upto seven persons. It is suggested to adopt a model similar to Kudumbashree or a better model for garment manufacturing in the State.

Common Facility Centre (CFC)

The clusters are to be managed by Common Facility Centres.

Common Facility Centre is a facility, which can offer all sort of support within the same area where a group of industries are located by providing the most commonly needed and expensive facilities like expensive machines which can cater upto 100 machines, finishing facilities, other facilities for export compliances. It can also have display centres, marketing centres, testing

centres, quality measuring centres. It motivates the members and new entrants to come forward to develop their business and can help them to reduce their operational costs and investment along with time management. Common Facility Centres can provide facilities such as design centre, testing facilities, training centre, information cum trade centre and common raw material / yarn / sales depot, dormitory, workers' residential space, common pre-weaving facilities viz. yarn dyeing, warping & sizing, twisting etc., and post weaving facilities viz. processing, etc.

Government may set up one Common Facility Centre (CFC) for every 1000 machines. Common Facility Centres should have the facilities for Centralised cutting, finishing packing etc. Each common facility centre should have technical staff. CFC should also have facilities for embroidery, printing etc. Multiples of CFC can be made depending on the need of production units. The estimated cost of setting up one Common Facility Centre is Rs.500 lakhs. The built up space available with spinning mills can be used for CFC.

Thus in order to become a successful entrepreneur, technical qualifications are not essential; rather entrepreneurial spirit alone is sufficient. This is what is being envisaged in this business model.

Government Incentives proposed to encourage Garment Sector in the State:

- Government of Kerala to declare garment manufacturing as a "thrust sector". Also request Financial Institutions to consider this industry for priority lending.
- To declare garment manufacturing as "green industry" so that all clearances become automatic. Certain clearances can be ignored.
- To attract investments, Government to consider incentives for:
    i. Capital investments (seed capital assistance)
    ii. Margin money for working capital

iii. Incentives on employment generated
iv. Interest subsidy during initial period
v. Special support for brand creation

- Government to consider providing loan through its Financial Institutions without guarantee (the assets can be treated as security)
- As long term assistance, the supports stated above may be treated as grant after five years of successful operations and continues.
- Introduce incentives for export earnings
- To work out a special package for garment sector

Such financial assistance schemes can be considered as a package for setting up of garment units in the State. These Governmental assistances can be recovered, wherever necessary, after five years of establishment of the unit.

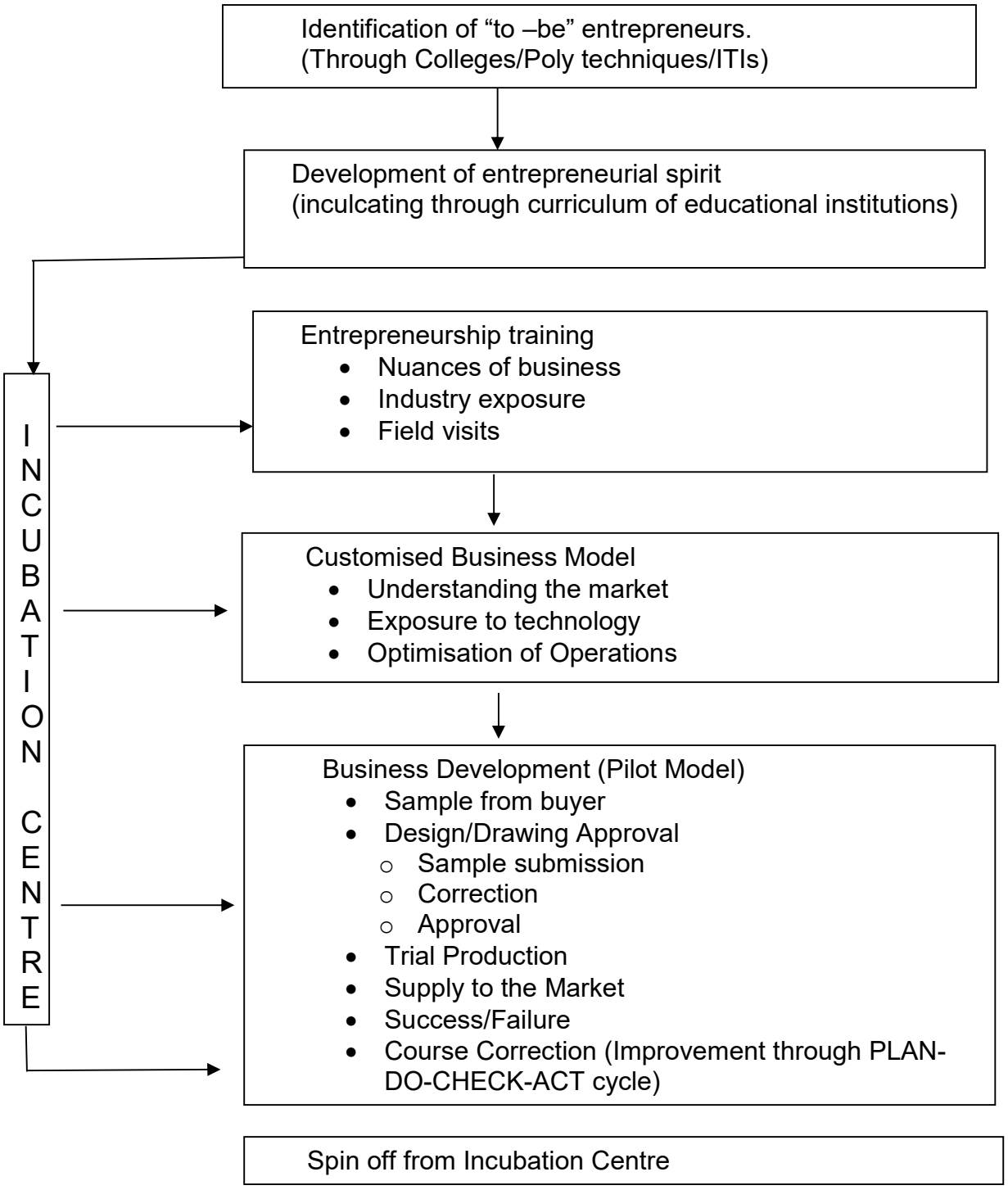
The excess land and buildings available with PSU/Cooperative millsdh can be made use of by Garment manufacturers.

Promotion of Garments sector has to be taken as a mission at District level by making General Manager of District Industries Centre (DIC) as the responsible officer. Each district should have an initial targeted employment generation of 7000, and in total the state with 14 districts, should be aiming for an employment generation of 100,000, in the Garments sector.

As part of the women empowerment on the entrepreneurial space, Garments sector is the apt one for 'start-up'. This industry can create maximum women employment.

In this sector, workers normally work on piece rate. An efficient worker can earn between Rs.800-1200 per day depending on their productivity.

PROPOSED BUSINESS MODEL (Flow Chart)



Snapshot of the Proposals/Suggestions

Sl. No.	Sectoral Investment	Quantity /Lot	Govt Investment (Rs. lakh)	Employment potential (No.)	Remarks
A	SPINNING				
1	Autoconers	18	3,600		Workers saved in this proposition will be used in spinning department for increasing Capacity Utilisation
2	Repairs and Maintenance		1,500		To improve machine productivity and product quality
3	Combers	1	650	10	Value addition
4	Testing	12	1,200	50	Quality Improvement
	TOTAL (A)		**6,950**	**60**	
B	WEAVING				
5	Khadi-Capacity addition	326	350	1000	Augmentation of Khadi looms
6	Handloom	Study	25		Market research and technological upgradation
7a	Powerloom – conventional looms to unconventional looms	225	5,000		Replacement of machinery; additional manpower not required. Funding by NCDC
7b	Common facility centre for sizing and warping	20	5,000		Replacement of machinery; additional manpower not required. Funding by NCDC
8	Powerloom	Study	10		Technological Upgradation
	TOTAL (B)		**10,385**	**1,000**	
C	**Promotional Expenses**				
9	Khadi campaign		200		Promotion of Khadi
10	Promotion of GI tag-Handloom		250	**10**	For positioning handloom fabric as a premium segment
	TOTAL (C)		**450**	**10**	

D	**GARMENTS***				
11	Proposal for entrepreneur ship Development @ Rs.10 lakhs /Centre (in institutions one time)	40 centres	400	1,00,000	
12	Incubation centres	5	500		
13	Common Facility Centres	4	2,000		
	TOTAL (D)		**2,900**	**1,00,000**	
	Grand Total		**20,685**	**1,01,070**	

*** Other promotional expenses may be included in Industrial Promotion activities like subsidies, incentives etc**

CHAPTER XI

CONCLUSION

As it has been holistically seen that it is 'Advantage India' as far as the textile industry is concerned, the same can be applied to Kerala also, if it manoeuvres the emerging sector of the industry, Garments, with definite vision and efficacy, apart from hand holding the existing spinning, handlooms and powerloom sectors of the Textile Industry.

Kerala state has knowledgeable work force and by adequate skilling of the manpower by leveraging on the skill development program (NSDC) of the central Government, sectors like Garments can immediately be put in place of growth trajectory and in near long term, wet processing and technical textiles could be the sectors to bank on for a viable business propositions with employment potential apart from hand holding the spinning and weaving sectors.

It is suggested that the Government of Kerala should take swift decisions on the proposals put forward to put the Textile Industry in a slow and steady growth path keeping in mind that the critical rejuvenation and eventual forward integration of the textile value chain will enable the textile industry to contribute to the state GDP further, inclusively, with a moderate level of employment potential.

If the proposals become a reality in an immediate-near term time span, the textile industry of Kerala will soon find an appropriate place in the Global/National map, similar to the states like Tamilnadu, Gujarat, Maharashtra, Andhra Pradesh and Telangana.

With the inclusive growth of the textile industry through the value chain, Direct Marketing will be in use instead of Push Sales, which would be a significant outcome, in the time to come. With the value added propositions, it is expected that a worker in the Garment Sector will get around Rs.800-1200 per day.

So, it's 'ADVANTAGE KERALA'

It may be clearly inferred from the report that Textile Industry in Kerala can be made to perform above par from the existing sub-optimal level with the suggested interventions, and necessary policy decisions to sustain the projected growth of the industry.

Government may consider Department of Industries as the nodal department to implement the promotion of Garment Industry in the State by entrusting the responsibility to District Industries Centres.

REFERENCES

1. *Ministry of Textiles*
2. *Indian Textile Journal*
3. *Department of Industrial Policy and Promotion*
4. *Press Information Bureau*
5. *SITRA*
6. *TEA*
7. *CITI*
8. *SIMA*
9. *Office of the Textile Commissioner (ipowertexindia.gov.in)*
10. *Ministry of Textiles, GoI (texmin.nic.in)*
11. *www.ibef.org*
12. *fibre2fashion*
13. *Kerala state planning board (spb.kerala.gov.in)*
14. *Expert Committee report*
15. *www.fashionatingworld.com*
16. *www.statista.com*
17. *textileexcellence.com*
18. *KKVIB, Kerala*
19. *DHT, Kerala*
20. *DIC, Kerala*

Exchange Rate Used: RS.. 1 = US$ 0.0139 as of Q3 FY18-19.