



सत्यमेव जयते

GOVERNMENT OF GUJARAT

Setting up a Banana Fibre Extraction and Textiles Production Unit

Agro and Food
Processing
Government of Gujarat



TM

10-13 Jan

GUJARAT 2017

Connecting India to the World | 8th Global Summit

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Project Concept

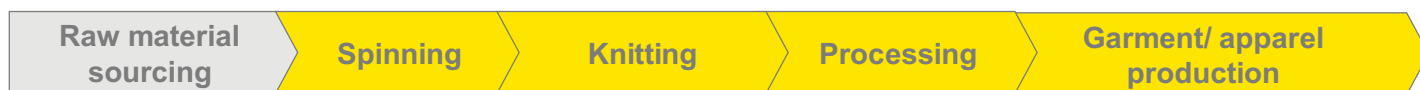
The concept

The project envisages setting up of **Banana Fibre Extraction and Textiles Production Unit** based on the raw material strength of Gujarat. The manufacturing unit can focus on production, processing, marketing, exports, etc.

What is banana fiber and its extraction process ?

- ▶ Banana fibre is eco friendly fibre like jute fibre. The complete process involves mechanical as well as automated mechanical extraction techniques-
 - ▶ Initially the banana plant sections were cut from the main stem of the plant and then rolled lightly to remove the excess moisture and impurities.
 - ▶ A machine consisting of two horizontal beams is used for extraction process to avoid fibre breaking.
 - ▶ These fibres are then labelled and made ready for lamination process.
 - ▶ After extraction of fibre, weaving is done in the looms as per normal process like any other material.

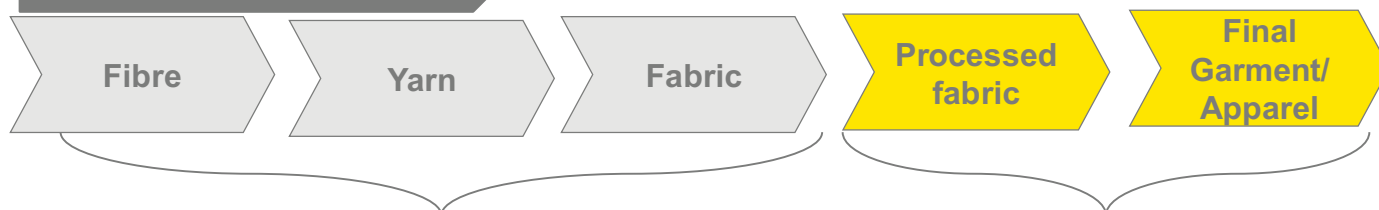
Textile production process



Banana Fibre extraction process



Output



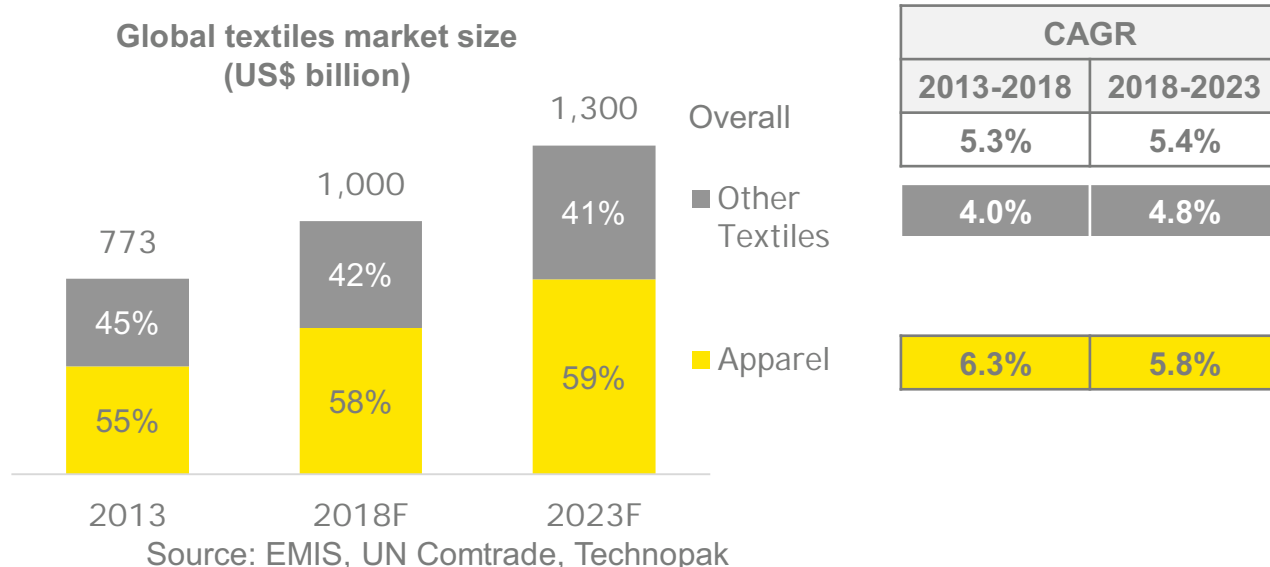
- ▶ High quality security paper, currency production
- ▶ Wet drilling cables and ship-towing ropes.

- ▶ Clothes and sarees
- ▶ Trinket boxes and Gift Bags
- ▶ Domestic and industrial rags
- ▶ Footwear

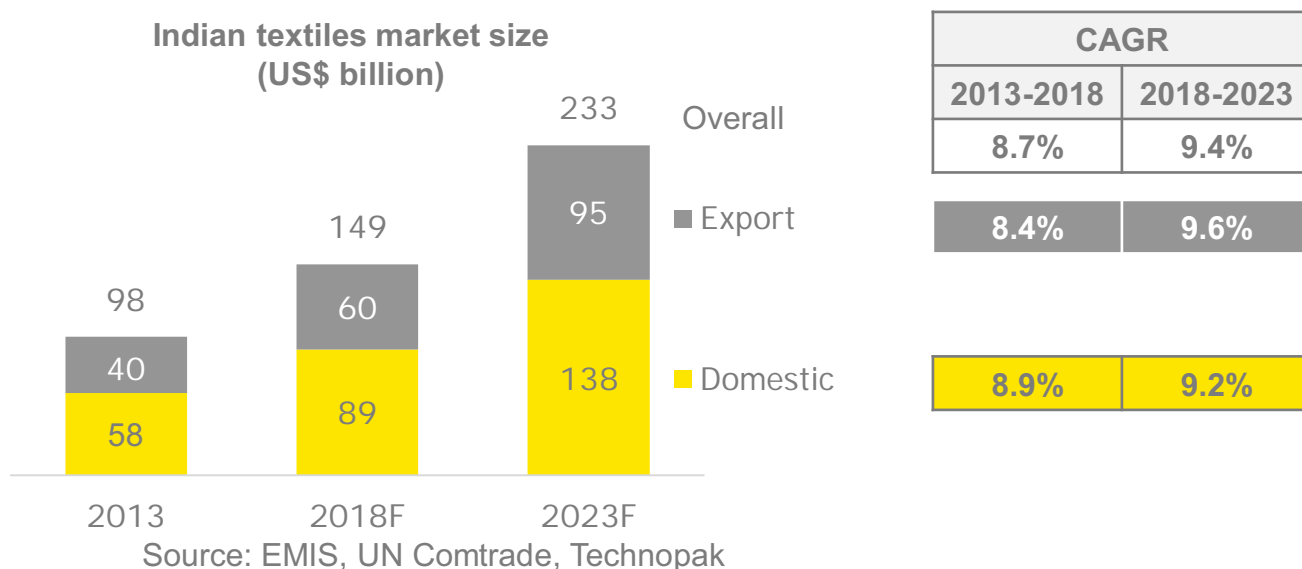
The project involves establishing an extraction unit of banana fibre and a textile production unit based on the eco-friendly fibre.

Market Potential

Indian textile market is expected to grow at a higher rate than the global textile market, boosting fabric demand and hence, presenting an attractive investment opportunity.



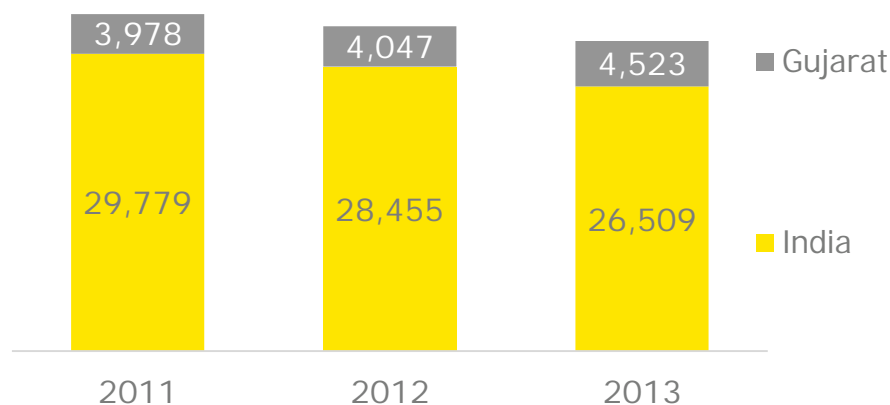
- ▶ Global textiles market is expected to cross US\$1 trillion by 2018. India's share in the market is expected to increase from 12.7% in 2013 to 14.9% in 2018 and to 17.9% in 2023



- ▶ The Indian textiles market is expected to grow at a higher rate than the global market primarily driven by rising per capita income, favourable demographics and a shift in preference towards branded products.
- ▶ Moreover, favourable trade policies (such as free trade with ASEAN countries and proposed agreement with EU and 100% automatic route FDI in the sector) and superior quality of India-made products will boost exports.

Banana production in Gujarat has been increasing at a CAGR of 6.6% y-o-y basis

Banana Production in India

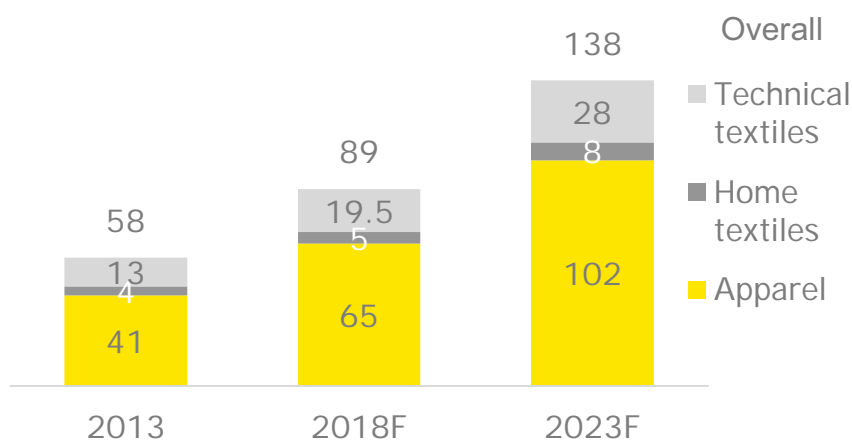


Source: Ministry of agriculture, Govt. of India



Banana Fiber can also be used to make blended cotton, production of blended cotton in 2015 was around 15.8% of total fabric production in India

Indian domestic textiles market – by segments (US\$ billion)



Source: EMIS, UN Comtrade, Technopak

CAGR	
2013-2018	2018-2023
8.9%	9.2%
8.4%	7.5%
4.6%	9.9%
9.5%	9.6%

- ▶ Domestically, apparel and home textiles (key demand sectors for cotton-based fabrics) are expected to witness strong growth rates during 2018-2023.
 - ▶ Apparel segment's growth will be supported by a robust growth in the organised apparel segment and entry of global player, such as H&M and Marks & Spencer.
 - ▶ Growth in home textiles will be driven by growing household income and growth of end use sectors, such as housing, hospitality and healthcare.

Growth Drivers

1

Fuelling demand for eco-friendly clothing in developed countries like Europe, USA and Canada and rise in per capita requirement of textile/ garments

2

Growing affinity towards eco friendly fabric over synthetic fabric in hot and humid , tropical and sub tropical climates, thereby boosting the demand for Banana fibre.

3

Provisions under the multi-fiber agreement in the WTO regime, to boost the use of natural fibres in global textile industries for various applications.

4

The raw materials involved are mostly waste products and hence gives cost competitive advantage fuelling growth of this product.

5

Indian textile industry has grown at a much higher rate than global textile industry, reason for the same is growing domestic demand and increasing exports.

6

Increasing demand of blended cotton, share of blended cotton was 15.8% of the total fabric produced in 2015

7

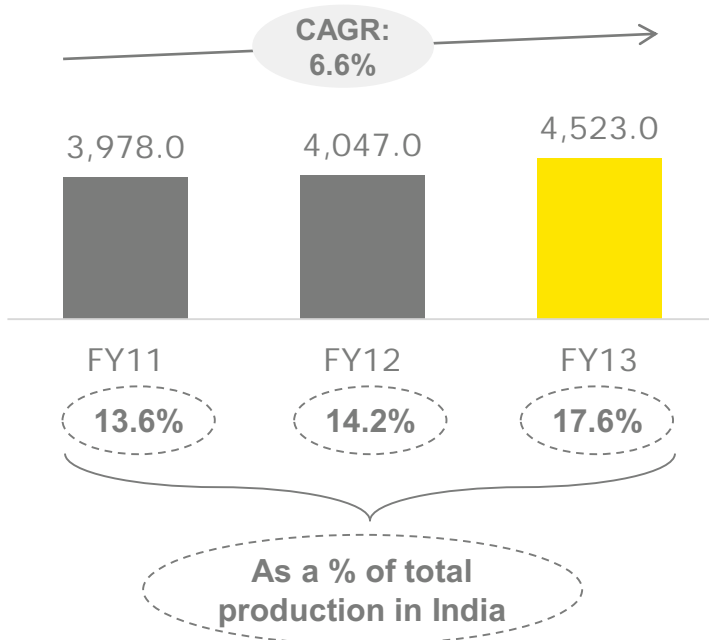
In 2012, India ranked #1 in banana production, One out of every four banana, in the world, comes from India.

Gujarat - Competitive Advantage



Sufficient raw material and support availability

Cotton production in Gujarat ('000 MT)



Source: Ministry of agriculture, Govt. of India

- ▶ 17.6% of the banana produced in India comes from Gujarat.
- ▶ Anand, Surat, Baroda, Bharuch, Narmada and Kheda are the main banana producing districts.
- ▶ In India, Gujarat is having productivity of 58.9 t/ha, which is highest in the country.
- ▶ Gujarat has well developed cotton textile industry hence this will find ready market for blending.
- ▶ Presence of textile research institutes like ATIRA, Ahmedabad.
- ▶ Availability of Technical manpower for fibre processing and textile industry.

Gujarat government is taking various initiatives to boost the textile industry



~US\$3.28 billion

The Government of Gujarat intends to invest in the textile industry by 2020, creating 1 million jobs



Two composite centers

to be established by 2019 in Ahmedabad and Surat



Four textile SEZs in Gujarat

7 integrated textile parks
18 Textile clusters



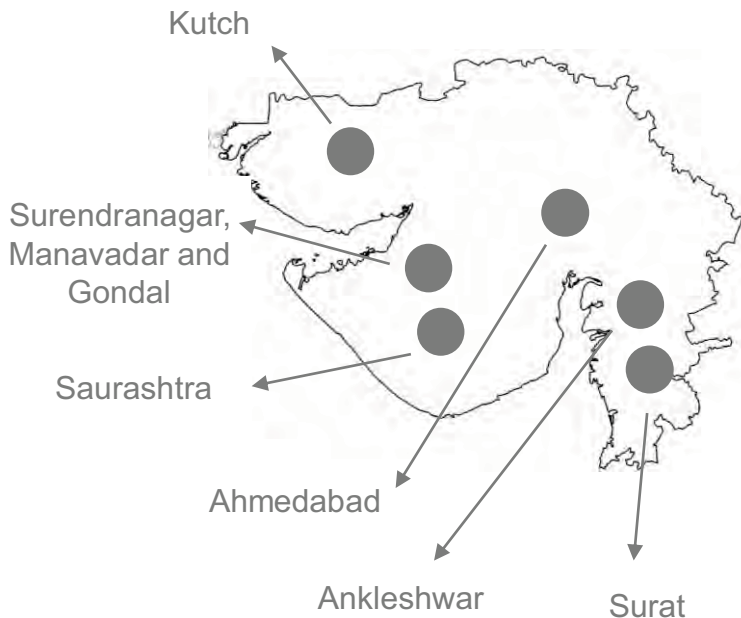
Two CoE (Centre of Excellence)

in Gujarat to be developed by NTC (National Textile Corporation) in collaboration with international firms

Gujarat - Competitive Advantage

Large number of textile hubs in Gujarat

Textile hubs in Gujarat



- ▶ Gujarat has a very established textile sector with more than 1,500 medium and large textile units and 18 textile-related product clusters.
- ▶ Large number of textile units are attributable to high availability of raw materials, with Gujarat being the largest producer of cotton in the country (production of ~12 million ales in FY14) and among the major producers of Banana.
- ▶ Going forward, the state plans to significantly increase its textile production capacity from the current level of ~50,000 weaving looms.

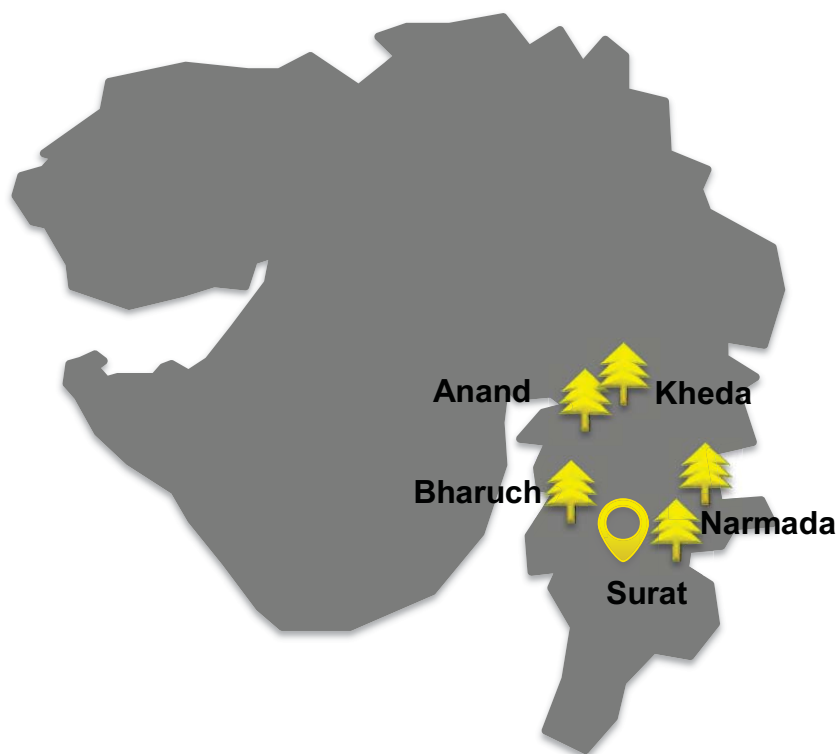
High availability of skilled manpower for the textile sector



Location of Major Educational Institutes

- ▶ Gujarat has 28 Industrial Training Institutes (ITIs) that offer industrial training courses on Textile and Garment industry with an intake of ~6,000 students per year.
- ▶ These institutes offers specialized courses in automatic fabric and textile manufacturing processes.
- ▶ The state is also a hub for many leading textile institutes which include National Institute of Design (NID) in Ahmedabad and National Institute of Fashion Technology (NIFT) in Gandhinagar.
- ▶ The government also provides assistance and training to apparel training institutions and other technical textiles.

Location



- ▶ Gujarat is one among the largest banana producing states in India
- ▶ Raw material can be easily sourced from the main banana producing districts in Gujarat —Anand, Surat, Vadodara, Bharuch, Narmada and Kheda

Distance from Surat	
Location	(in Kms.)
Bharuch	58
Narmada	134
Anand	201
Kheda	234

Considering the project requirement of raw materials the suggested locations are Bharuch, Surat, Narmada, Kheda, and Anand. This would also help in reducing the cost of production to a certain extent. As an illustration some suggested sites in Surat has been listed below

1

Gujarat Eco-Textile Park, at Palasana, Surat is India's first eco-textile park with specific focus on environmental issues. It is on the top of all the textiles park in Surat, with the production value of fabrics, shirting, sarees, denim synthetic pegged at INR1,396 crore per annum.

- ▶ The Park provides excellent infrastructure and facilities to enable the industry in reducing the input costs and meeting the regulatory and trade related compliances with respect to quality , environment and social standards. This park is supported under Scheme of Integrated Textile Park by Ministry of Textiles–Government of India under S.I.T.P scheme. It is fully equipped with :
 - ▶ Common solid waste treatment and management
 - ▶ Centres of excellence
 - ▶ Hospital, Bank
 - ▶ Research facility
 - ▶ Waste to energy incinerator with full recovery of energy
 - ▶ Rain water harvesting and captive power plant for power generation based on natural gas



35 Kms from Surat Railway Station, 6 Kms. From NH8, Nearest Airport – Surat at a distance of 50 Kms

2

Kejriwal Integrated Textile Park, at Palasana, Surat is focused more on man-made fibres. The park would have facilities for texturizing, twisting, weaving and embroidery etc. It is one of the modern textiles park in Surat, with the production value of fabrics, shirting, sarees, denim and synthetic.

- ▶ Centre of excellence including training center
- ▶ Design studio
- ▶ Testing laboratory
- ▶ Packaging facility and warehouse



35 Kms from Surat Railway Station, 6 Kms. From NH8, Nearest Airport – Surat at a distance of 50 Kms

Location Plan



Layout Plan



3

RJD Integrated Textile Park Ltd., at Hajira, Surat is an ideal park spread on 55 acres for a non-polluting textile industry, Weaving, Spinning, Textile rising, Yarn preparatory, Embroidery, Technical Textile, Garmenting, Knitting etc.



13 Kms from Surat Railway Station, Nearest Airport – Surat at a distance of 12 Kms

3 Kms. From NH8,

Location Plan



Layout Plan



Project Information

Infrastructure availability and connectivity



Rail

- ▶ Surat is connected with other districts of the state such as Rajkot, Vadodara and Ahmedabad by rail.
- ▶ Hazira port in Surat is ~16 kms away from the Surat railway station.

Proposed

- ▶ The Mumbai-Ahmedabad bullet train project will have Surat as one of the stations.
- ▶ In 2016, the Gujarat government assigned Delhi Metro Rail Corporation as a consultant for the proposed metro connectivity in Surat.
- ▶ Rail connectivity was proposed for Hazira and Nargol ports in the 2016 rail budget.



Road

- ▶ The city is connected to Delhi Mumbai Industrial Corridor (DMIC) which links Ahmedabad, Vadodara and Surat.
- ▶ Proximity to NH-8 and NH-6 further enhances connectivity in the city.
- ▶ Surat also has very good connectivity with other cities of the state such as Vadodara (154 km) and Ahmedabad (265 km).

Proposed

- ▶ Proposed four-lane highways which are expected to improve connectivity in Surat include – Dakor-Savli, Vadodara-Dabhoi & Surat-Olpad-Bardoli.



Air

- ▶ Surat domestic airport is well connected to various parts of the country. The city is located ~275 kms from the international airport at Ahmedabad.

Proposed

- ▶ In January 2015, Airports Authority of India gave an in-principle approval for cargo terminal at Surat airport worth INR70 million. The terminal is expected to be operational in 2017.
- ▶ In February 2016, Surat Airport Action Committee filed an online petition for an international airport at Surat.



Port

- ▶ The nearest port is Hazira which is 25 km from Surat.
- ▶ Additionally, Hazira port is well connected to Mundra port and Jawaharlal Nehru Port Trust (JNPT) – India's largest container port
- ▶ Thus, it provides a convenient textiles-related trade gateway to International (Europe, Africa, America and the Middle East) and domestic markets.

Utilities



Water

- ▶ Water for industrial purposes can be obtained from four sources viz. Gujarat Water Supply and Sewerage Board (GWSSB), an irrigation canal, dams, and surface reservoirs.



Power

- ▶ The main source for the power supply is Torrent Power Limited in Surat

Project Information

Manpower requirement

Activity	Persons required
Fiber extraction	20
Cleaning and Grading	10
Spinning yarn	15
Weaving and processing	20
Maintenance	5
Others	15
Total	85



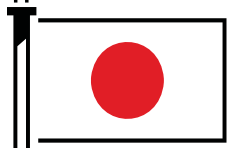
A total manpower requirement of ~ 255 people will be required to run the facility 24X7

Global leaders in banana fibre extraction



Philippines

Banana fiber is already used successfully in Philippines since decades and hence it is also known popularly as “Manila Hemp”. The other name of this fiber is “Abaca”, it belongs to musa sapientum species.



Japan

India's major textile players

Company	Business Areas
Welspun India	Home textiles, bathrobes, terry towels
Vardhman Group	Yarn, fabric, sewing threads, acrylic fibre
Alok Industries	Home textiles, woven and knitted apparel fabric, garments and polyester yarn
Raymond	Worsted suiting, tailored clothing, denim, shirting, woollen outerwear
Arvind Mills	Spinning, weaving, processing and garment production (denims, shirting, khakis and knitwear)
Bombay Dyeing	Bed linen, towels, furnishings, fabric for suits, shirts, dresses and saris in cotton and polyester blends
Garden Silk Mills	Dyed and printed fabric
Trident Limited	Home textiles, yarns, terry towels

Project Information



List of plant and machinery

Banana fibre extraction Unit

SN	Supplier (Model)	Quantity	Supplier
1	Cutting and slitting equipments	5	Rashtriya Engineering Works, Delhi
2	Roll crusher for fiber separation	3	Rashtriya Engineering Works, Delhi
3	Open vats	6	Rashtriya Engineering Works, Delhi
4	Hot air drying chambers	2	Ashitex Mech, TamilNadu
5	Weighing scale/balance	4	Omega electronic scale co Ltd., Mumbai
6	Hot air generator	1	Aerotherm India P. Ltd. Ahmedabad
7	HT/LT Electrification and 60 KVA DG set	1	Kirloskar electricls Ltd., Mumbai

Andhra Pradesh Agro-Industries Dev. Corporation, Hyderabad

Textile production unit (mainly spinning unit)

Machine	Supplier (Model)	Quantity	Approx. Cost per unit (INR crore)	Approx. Total Cost (INR crore)
Autoconer	Schlafhorst	10	2.37	23.7
Blow room Line	Truetzschler	1	0.9	0.9
Carding	Truetzschler (TC 5-3 with KHC)	6	0.3	1.8
Combers	LMW (LK64)	7	0.3	2.1
Finisher Draw frame	LMW (LRSB851)	4	0.19	0.76
Speed Frame	LMW (LF4200A)	4	0.55	2.2
Ring Frame	LMW (LR9AX)	15	0.7	10.5

Potential collaboration opportunities

ATIRA (Textiles Research Institute), Gujarat (Technology)
National Research Center for Banana Tiruchirappalli, Tamil Nadu (Machinery/ Process)
Indian Institute of Horticultural Research, Bangalore, Karnataka (Technology)
Directorate of Horticulture, Pune, Maharashtra (Technology)
Tiruchirappalli Regional Engineering College - Science & Technology Entrepreneurs Park (TREC-STEP) (Innovative Machinery)

Key Considerations

The proposed project will have project time line of 4 to 5 months in obtaining necessary permissions and approvals from concerned authorities and the project can be implemented in a period of 10-12 months.

Project Financials



Estimated Project Cost

The estimated financials are for a medium scale production unit, producing 30 MTPD (Metric Tons per Day) or 9000 MTPA fibre. This capacity is suggested based on possible availability of raw-material and optimum size of project investment.

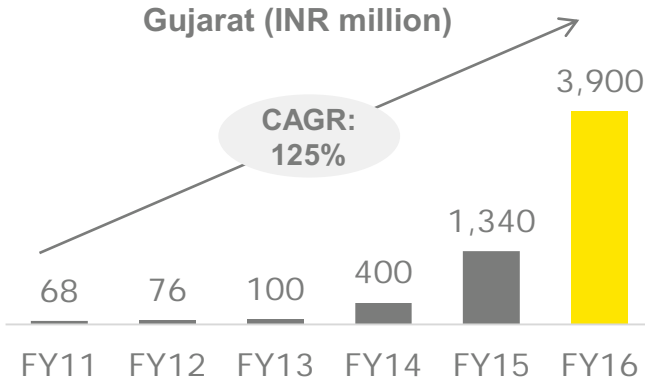
Project cost (fiber extraction)*	
Project components & specifications	Cost (INR crore)
Land (Area: 2.47 acres – 10,000 square meters)	0.95
Plant building cost (blow room, yarn godown, cotton godown, etc.) Built-up area: 1,500 sq m	2.39
Machinery cost	10.77
Utility and other equipment (Electricals, piping, water supply system, etc.)	1
Miscellaneous fixed assets (Furniture and fixtures, office equipment, etc.)	0.44
Contingencies	2
Preliminary and pre-operative expenses (Company formation, interest during construction, etc.)	1.31
Margin money for working capital	3.86
Total project cost (a)	22.72
Project cost (textile production)	
Project components & specifications	Cost (INR crore)
Land (Area: 6.0 acres – 24,281 square meters) Rate: (INR15,400 per sq m as of FY15 at Surat)	37.39
Building cost (Average rate: INR4,500 per sq m) Built-up area: 9,000 sq m	4.00
Machinery cost (including erection and commissioning for a 18 million meters per annum)	50.00
Other cost (including other equipment, fixed assets, contingencies and working capital requirements)	84.50
Total project cost (b)	175.89
The total project cost of banana fibre extraction and textile production facility in Surat, Gujarat, is approximately INR198.61 crores (a+b).	

Approvals

Industrial Entrepreneurship Memorandum(IEM)	From DIC (District Industries Centre) for setting up industry other than SME
Environmental Clearance (EC)	From Ministry of Environment and Forest (MOEF) for environmental clearance
Other approvals and permissions	Approval from textile ministry, Govt. of India Approvals for electricity and water supply

Incentives from Government of Gujarat

Incentives to Textile and Apparel Sector from the Government of Gujarat (INR million)



Source: Industries Commissionerate

During FY16, incentives provided increased ~3 times Y-o-Y and are expected to rise further.

- ▶ 5% interest subsidy on bank loans for five years for those who establish new plants for value addition chain like ginning, processing, weaving, knitting and machine carpeting.
- ▶ 7% interest subsidy on new plant and machinery for five years for cotton spinning, garment manufacturing and technology up gradation.
- ▶ Refund of value added tax (VAT) on expansion of new units in spinning and power tariff concession to cotton spinning and weaving units.
- ▶ Financial assistance for skill development centres, for technology acquisition and also for supporting energy and water conservation as well as for environmental compliance.

Incentives from Government of India (GoI)

Under the Technology Up gradation Fund Scheme (TUFS), the GoI is offering 5% credit linked interest subsidy on purchase of textile machinery.

- ▶ In 2016, the government also approved an Amended Technology Up-gradation Funds Scheme (ATUFS), where the GoI has made a fresh allocation of INR51.5 billion as one time capital subsidy for new investment apart from allocated budget of INR33.8 billion for limited liability.
- ▶ Through the ATUFS, the GoI aims to attract an investment of INR1,000 billion by 2018.

Scheme for Integrated Textile Parks (SITP) : 40% capital subsidy to a maximum of INR40 crore on total project cost on projects approved by government. Also, 100% FDI allowed for textile sector.

The basic custom duty on imported technical textile machinery has been reduced from 10% to 5% and support to start-ups is also provided.

The Southern Gujarat Chamber of Commerce & Industry

www.sgcci.in

Gujarat Handicraft

<http://gujarathandicraft.gswan.gov.in/>

Agriculture and Co-operation Department

www.agri.gujarat.gov.in/index.htm

Gujarat Industrial Development Corporation

www.gidc.gov.in/

Industries Commissionerate

www.ic.gujarat.gov.in

This project profile is based on preliminary study to facilitate prospective entrepreneurs to assess a prima facie scope. It is, however, advisable to get a detailed feasibility study prepared before taking a final investment decision.

For further details:

iNDEXTb
INDUSTRIAL EXTENSION BUREAU
(A GOVT. OF GUJARAT ORGANISATION)
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