



# **COIR PRODUCTS VALUE ADDITION**



INDIAN COIR  
*Natures Gift*

# HISTORY OF COIR



FIRST COIR FACTORY WAS ESTABLISHED IN ALLEPPEY  
IN 1859 BY JAMES DARRAH,  
FOLLOWED BY INDIAN ENTREPRENEURS AND FOREIGN  
NATIONALS AND THEY EXPORTED COIR & COIR  
PRODUCTS TO EUROPEAN COUNTRIES.

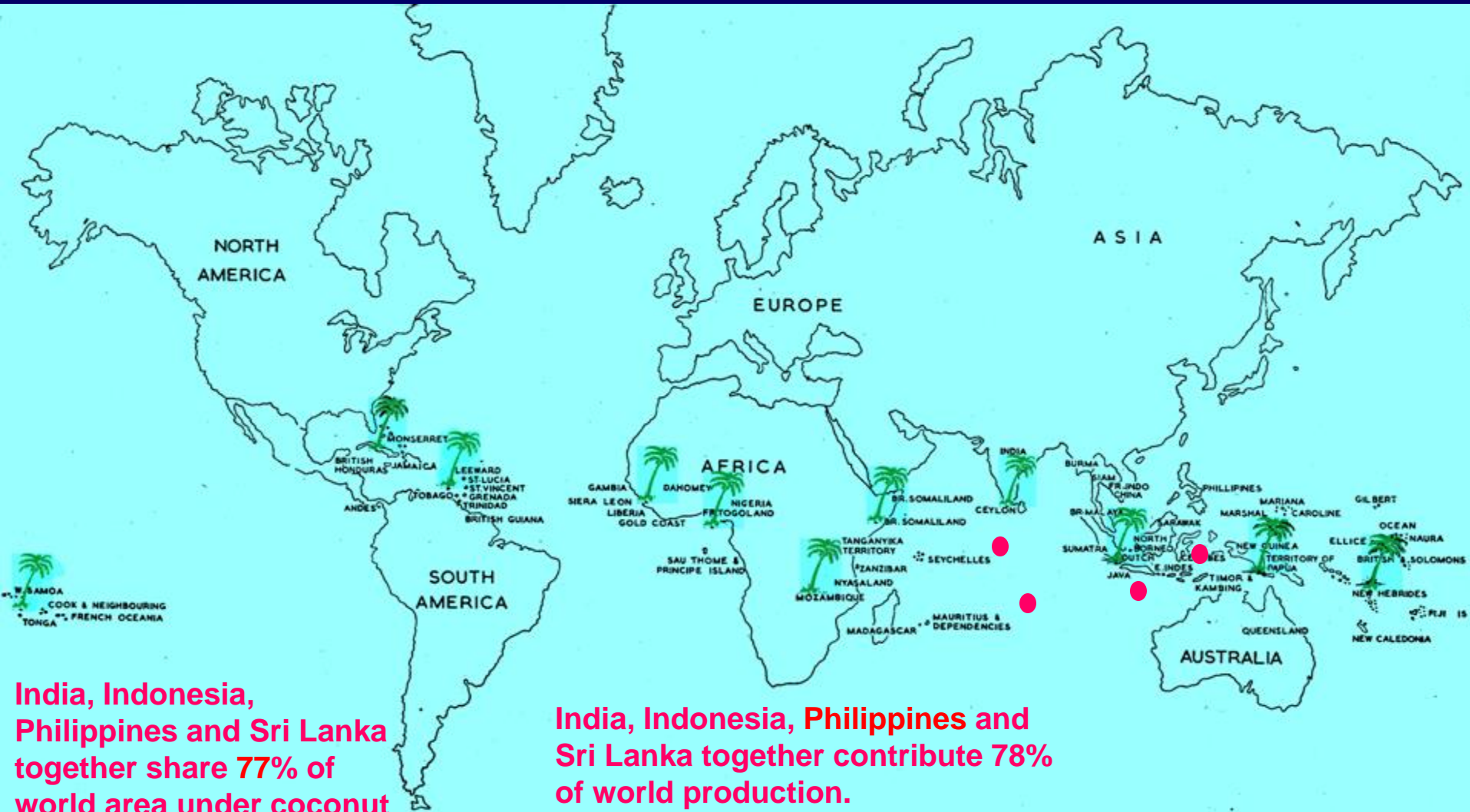




**Coconuts are usually harvested at the end of every 45 days all throughout the year**



# Coconut is grown in 93 countries in the World



# COIR INDUSTRY IN INDIA



- India is third largest producer of coconut with an annual production of 12,833 million nuts.

- Area under cultivation of coconut- about 51,00,000 (hectares)

- Employs 6,22,000 workers out of which 80% are women.





# Chemical Properties

Fibre	Cellulose	Hemicellulose	Lignin	Pectin
Flax	68 - 85	10 -17	3 - 5	5 -10
Hemp	70 - 75	12 -15	10 -15	1
Jute	61 - 70		12 -19	
Kenaf	31 - 39	21.5	15 -19	
Coir	43.44	0.25	45.84	3.3

Responsible for

Biodegradability, Thermal  
degradability, Moisture  
absorption

Responsible for

Thermal stability  
UV degradability



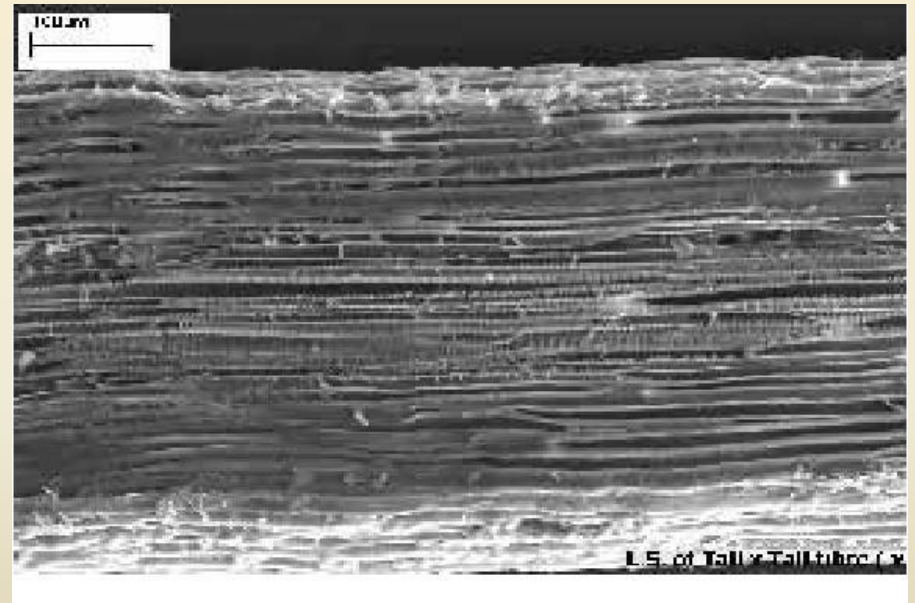
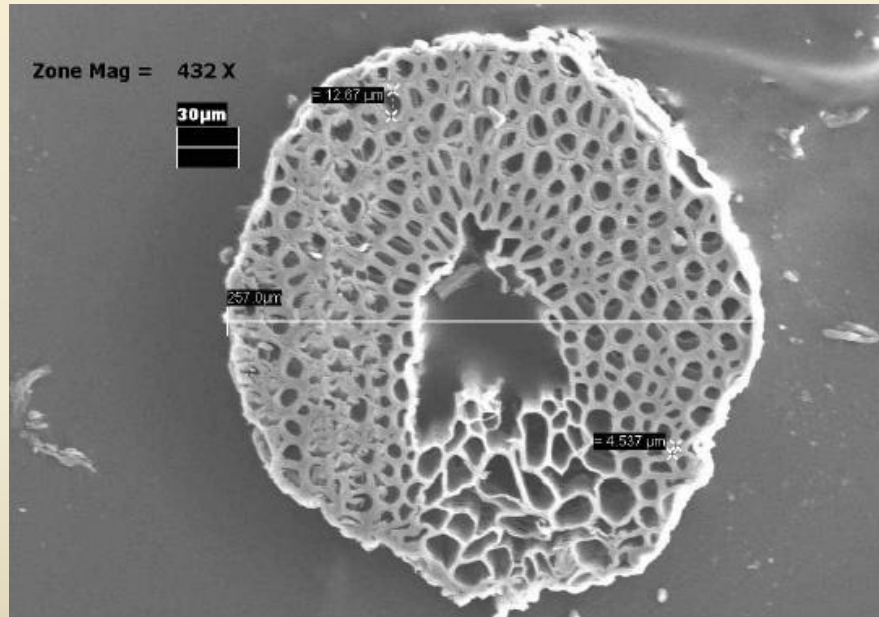
# ABOUT COIR

- ▶ Coir is a lignocellulosic natural fibre
- ▶ It is bio-degradable and environmental friendly
- ▶ It is tough, durable, versatile and resilient
- ▶ It is extracted from coconut husk, the fibrous mass covering the coconut

# CHEMICAL COMPOSITIONS OF COIR

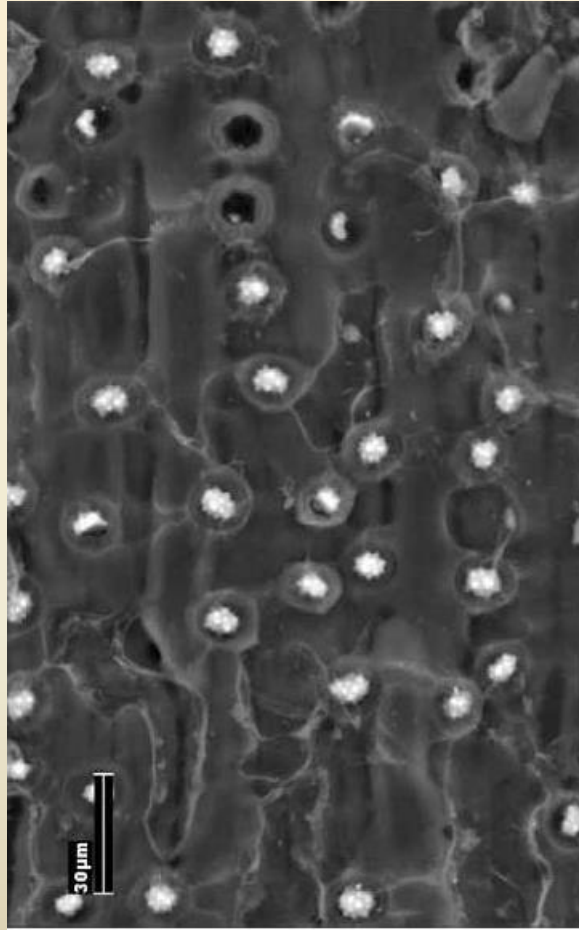
▶ Lignin–	45.84%
▶ Cellulose–	43.44%
▶ Hemi–cellulose–	00.25%
▶ Pectin and other compounds–	03.00%
▶ Water soluble–	05.25%
▶ Ash–	02.22%

# Crosssectional & Longitudinal view





# Surface view of Coir Fibre



# Coir – Close Resemblance to wood



- ▶ Coir has 45.84% lignin as against 39.84% in Teak. Hence Coir is more durable than Teak.
- ▶ Coir is available in abundance.
- ▶ Coir is renewable.

# Coir – Proven Properties

## ► Strength

Scaffold  
Joins in building  
construction





# Coir – Proven Properties



- ▶ Resistance to weather conditions
- ▶ Cyclic usage of fishermen's boat in salt water and hot sun

# Coir industry in India

- ▶ Total production of Coir Fibre in India is 3,64,000tons
- ▶ The industry employs 6 lakh rural persons out of which 80% are women
- ▶ The total utilisation of available husk is less than 40%
- ▶ More than 60% of the available husk is wasted.

# Coir Products

## Traditional Products

- ▶ Fibre
- ▶ Yarns
- ▶ Mats / Mating
- ▶ Curled Coir
- ▶ Rubberised Coir

## Non Traditional products

- ▶ Non Woven Coir
- ▶ Geo-textiles
- ▶ Wood Substitutes
- ▶ Coir Pith
- ▶ Coco Lawn
- ▶ High Density Coir Pads



# Coir industry – Contributions towards Sustainable Development

- ▶ Environment Protection
- ▶ Employment Creation
- ▶ Poverty Alleviation
- ▶ Improving lives of underprivileged
- ▶ Rural Development

# GREEN COCONUT HUSK





# TRADITIONAL RETTING IN BACKWATERS







# Decortication Process



Burster



Baling Press

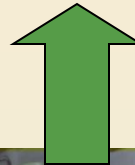
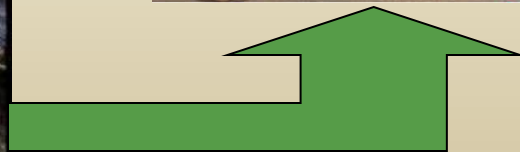
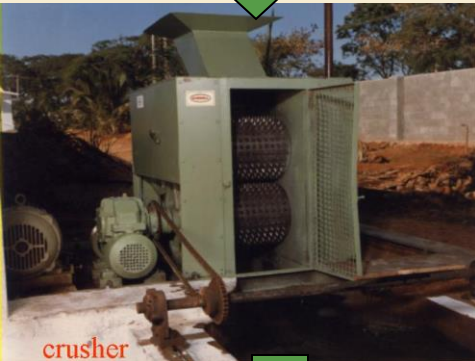
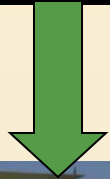


Decorticator



Sifter

# Fibre Extraction





# MOBILE FIBRE EXTRACTION MACHINE



# Traditional Products – Fibre





# Traditional Products – Yarns



# Traditional Products

## Curled Coir Rope





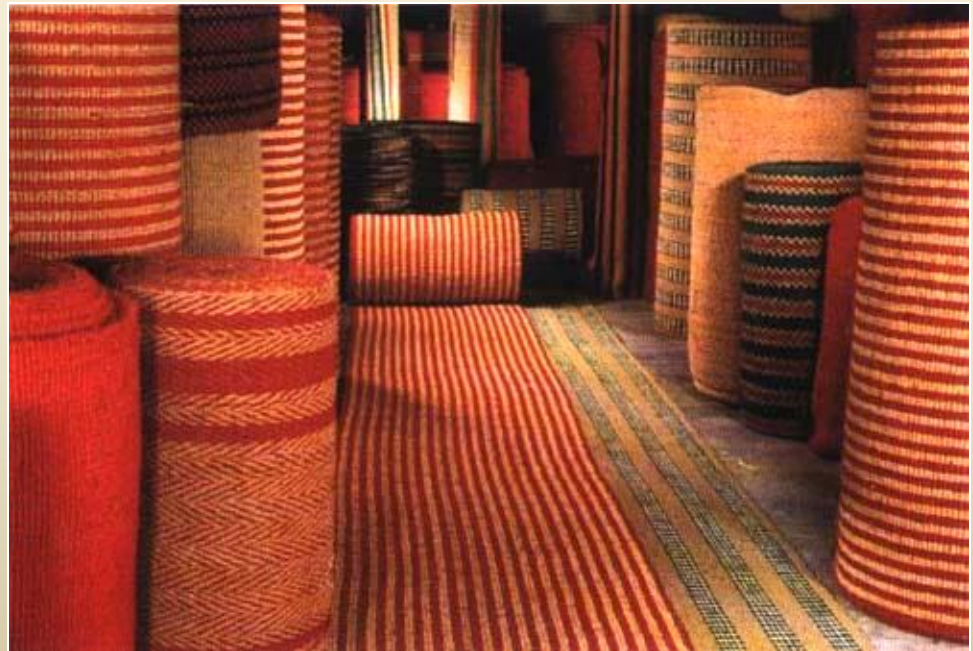
# Traditional Products



Rugs

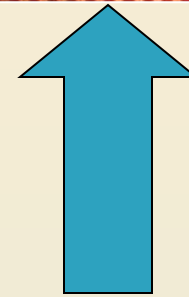
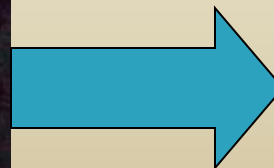


Door Mats



Mattings





Coir Fiber to mattings





# Rubberised Coir mattress



# Non Traditional Products – Wood Substitutes



# USE OF COIR COMPOSITES

- BUILDING SECTOR
  - SHUTTERING
  - CONCRETE RELEASING
  - CURING OF CONCRETE
  - DOORS AND DOOR FRAMES
  - WINDOWS AND WINDOW FRAMES
  - WARDROBES, FURNITURES AND OTHER INTERIORS
  - NOW EVEN AS WALLS FOR INTERIOR AND EXTERIOR



# COIR MOULDED DESIGNS





# MANUFACTURE OF COIR INTERIORS



# COIR DOORS



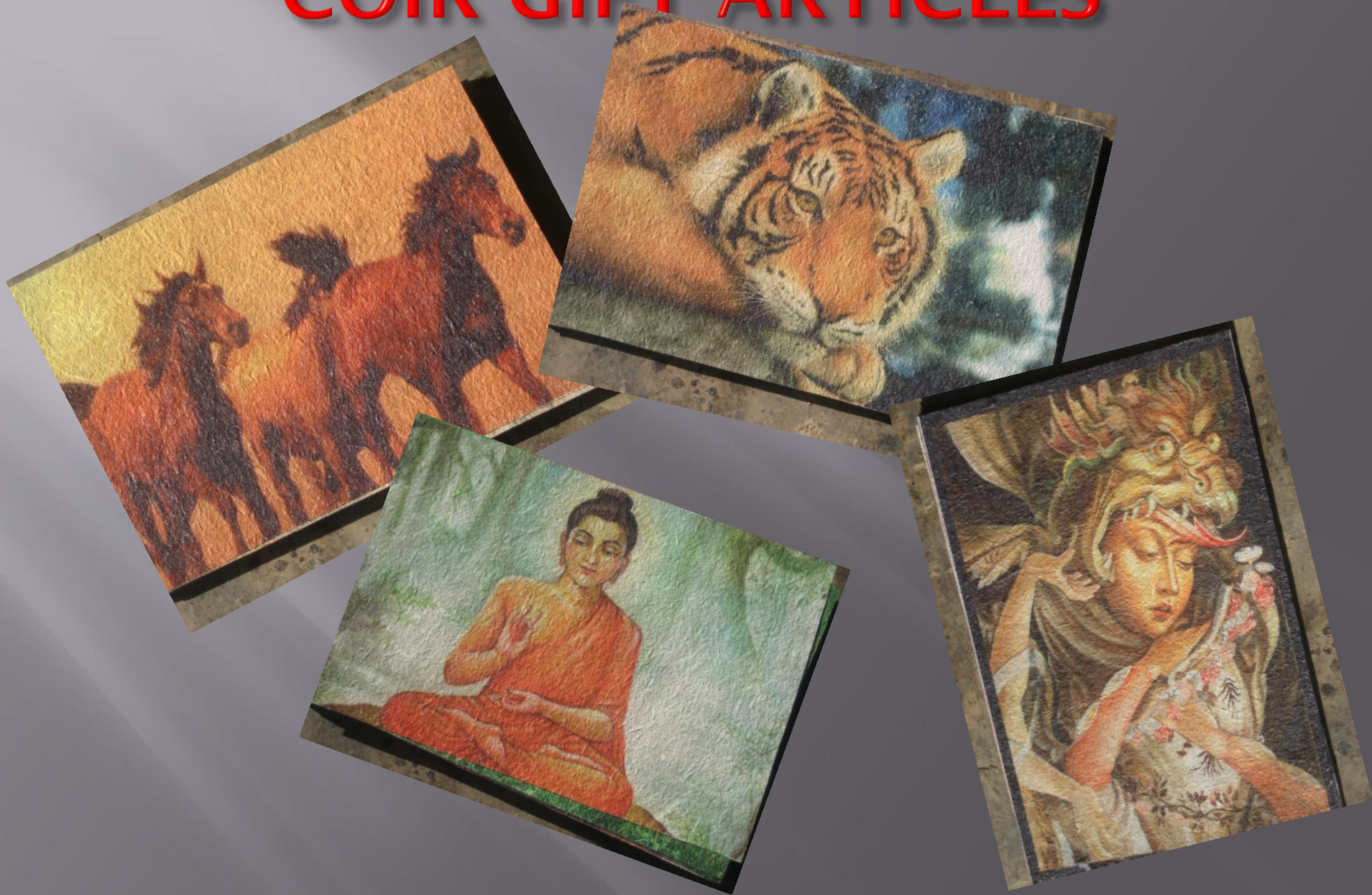


# COIR WALL PANELS





# COIR GIFT ARTICLES





# DOOR INSERTS

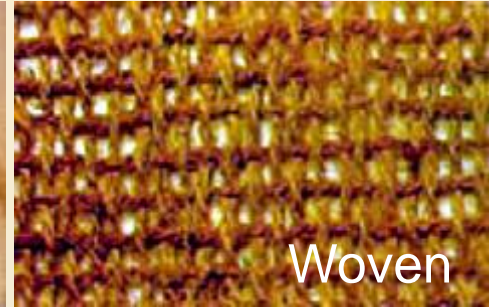




# Non Traditional Products – Geo-textiles

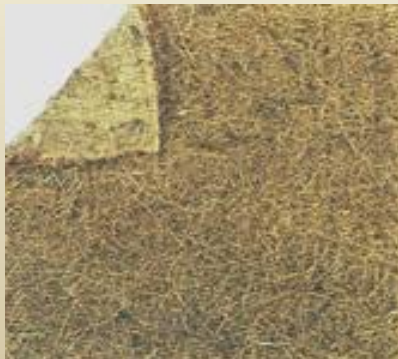


# Coir Geotextiles



Woven

Non woven stitched blanket



Coir Geotextiles, are basically classified into two categories ie; Woven and Non woven. Woven varieties are commonly made in handlooms.

Natural Fibers: Vision 2020

Coir Board 8<sup>th</sup> December 2006



# Coir Geotextiles

Road / Canal embankment protection

- Protection of soil sliding in Railway cuttings
- Soil mulching
- Agricultural land protection, weed control etc.



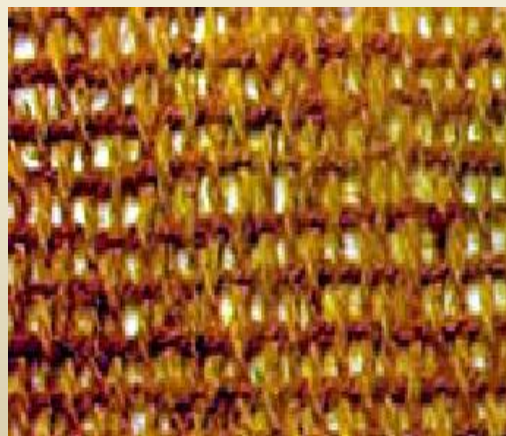
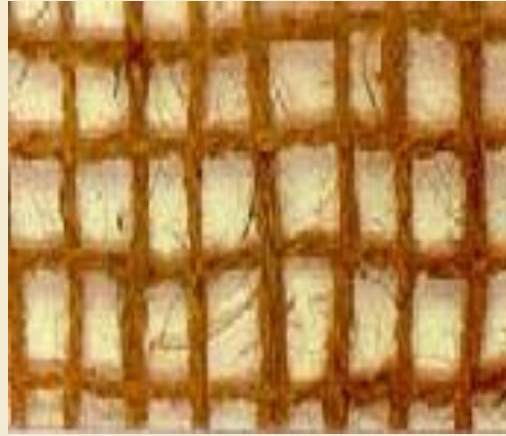


# Strengthening the embankment of roads, canals and reinforcement of roads using coir Geo textiles.

Leveling of slopes



Laying of geotextiles





# APPLICATIONS OF COIR GEO TEXTILES

Road / Canal  
embankment  
protection,  
Protection of  
soil sliding in  
Railway  
cuttings,  
Soil mulching,  
Agricultural





# COIR GEO-ROLLS





## CREATION OF GREENERY OVER ROCKY PATCHES USING COIR GEOTEXTILES



Installation of CGT over rocky patches

After Treatment

# APPLICATION OF NON WOVEN GEO-TEXTILES ON CLAY SOIL



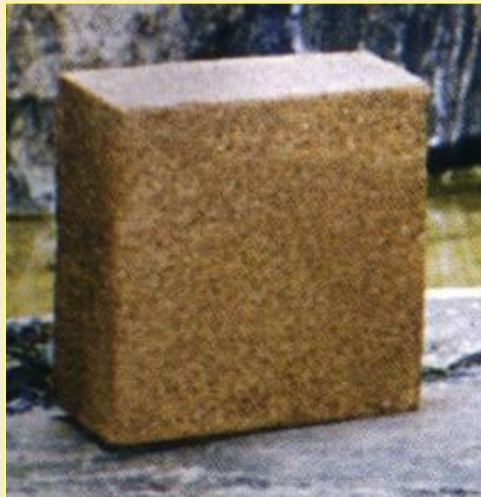








# Non Traditional Products – Cair Pith





# COIR PITH

a soil conditioner and organic manure



*Coir Pith Brick*



*Coir Pith compost*





# PITHPLUS



- ❖ PITHPLUS IS AN EDIBLE MUSHROOM SPAWN
- ❖ CONVERTS COIR PITH INTO A BIO-ORGANIC FERTILIZER IN A PERIOD OF 21 DAYS





ar in bijna alle gangbare plastic trays.



**Forteco Kokosplanken**

Kokos<sup>®</sup> geperst in planken  
in ingehoesd

**voordelen:**

- zeer eenvoudig installeerbaar
- leverbaar met plantgaten
- droog geperst, daardoor erg licht
- bij installatie
- leverbaar met drainslits
- door geperste volume ideaal te
- transporteren
- zeer snelle teeltwisseling mogelijk

**Substraat in bakken**

- Kokos<sup>®</sup> geperst in planken
- Kokos<sup>®</sup> levering los
- Kokos<sup>®</sup> levering kant-en-klaar in bakken

**HP-Kokosbodem**

- Kokos<sup>®</sup> los gevuld in bakken

**voordelen:**

- zeer eenvoudig installeerbaar
- voorzien van plantgaten en draingaten

**FORTECO Power**



# Non Traditional Products – Cocolawn





**COCOLAWN™-**  
an Instant Lawn  
*using*  
**Coir Bhoovastra**  
&  
**Coir pith organic**  
**manure**





# COIR GARDEN ARTICLES

**Coir fibre finds numerous applications in gardens.  
Add a warm hue to the surroundings.**

**Available in various kinds like pots, hanging baskets,  
tree mats, creeper poles and anti-weed blankets.**



**Coco pots**



**Coir Hanging Basket**



# Coir Garden articles

such as coco pole, coco chips and molded coir baskets are widely used in gardening and nursery uses.



Moulded coir basket



Coco chips



Coco poles





Creeper poles



Coir Basket



# Coir - Polyester Moulded Products





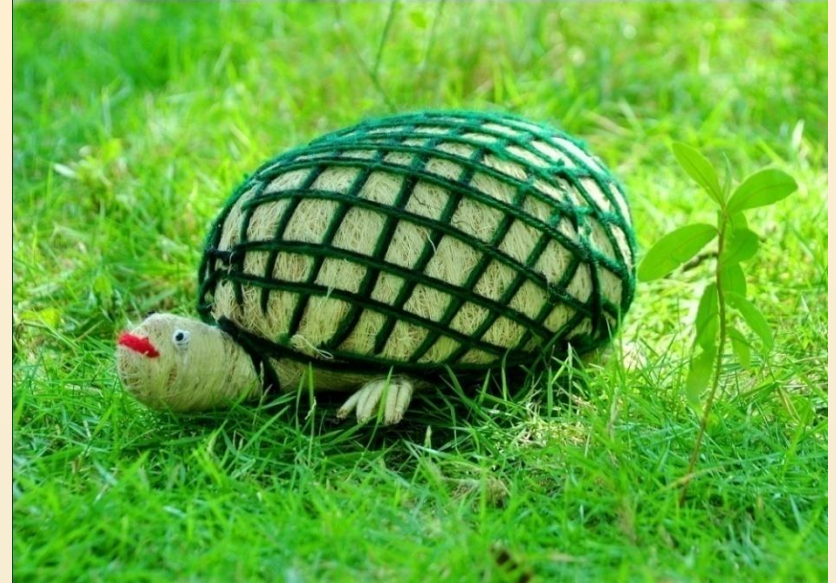
# COIR JEWELLERY ITEMS



# Coir Ornaments

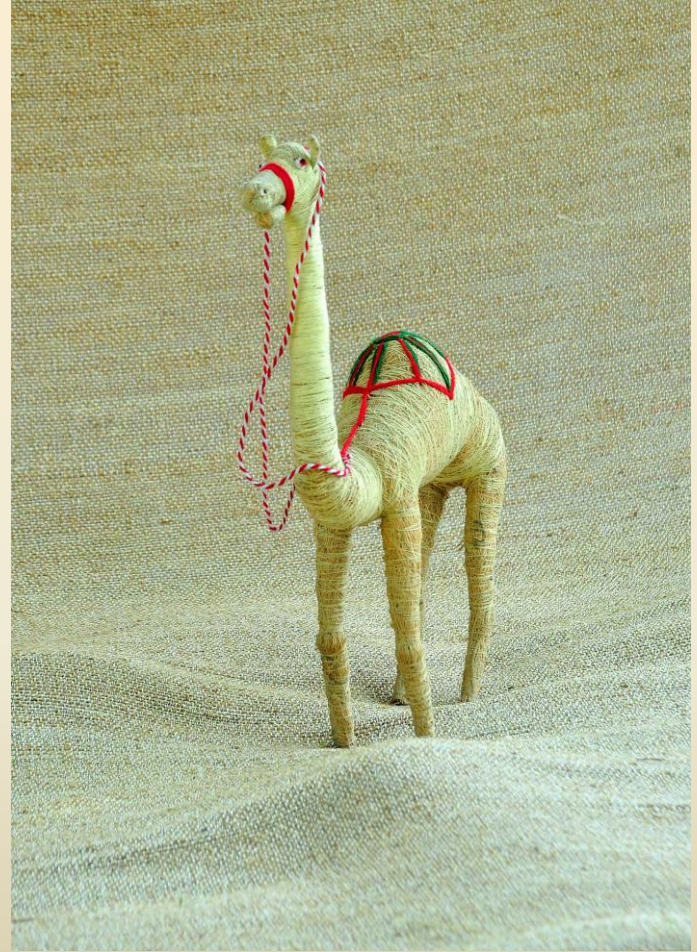








# COIR CRAFTS





# ***COIR***

***..is Green Business***

***Environmentally responsible  
& Sustainable...***

**THANKS**

