

Logo

106-E, Kamla Nagar, New Delhi-110007, India.
Tel: 91-11-23843955, 23845654, 23845886, +918800733955
Mobile: +91-9811043595
Email: npcs.ei@gmail.com, info@entrepreneurindia.co
Website: www.entrepreneurIndia.co

The Complete Book on Jute & Coir Products (with Cultivation & Processing) 2nd Revised Edition

Code: NI287	Format: paperback
Indian Price: ₹1575	US Price: \$150
Pages: 464	ISBN: 9788194737988
Publisher: NIIR PROJECT CONSULTANCY SERVICES	

Description

The Complete Book on Jute & Coir Products (with Cultivation & Processing) - 2nd Revised Edition

Jute is a natural fiber popularly known as the golden fiber. It has gained its name as olden fibre due to its shiny brown colour. The fibre is affordable to all the consumers and is completely biodegradable. It is one of the cheapest and the strongest of all natural fibers and considered as fiber of the future. Jute is second only to cotton in world's production of textile fibers. Jute fibers are composed primarily of the plant materials cellulose and lignin. Jute is the name of the plant or fiber used to make burlap, hessian or gunny cloth.

Coir is a versatile natural fibre extracted from mesocarp tissue, or husk of the coconut fruit. Generally fibre is of golden color when cleaned after removing from coconut husk; and hence the name "The Golden Fibre".

Both coir and jute are natural fibers and come from sustainable products. Coir comes from the husks of coconuts that were typically discarded. It is harvested by hand and soaked in water to soften the fibers, which are then woven together. Jute fiber comes from the stem of the jute plant and is the second most important vegetable fiber, after cotton, when it comes to production and use.

Global jute market on the basis of type, covering jute sack bags and jute shopping bags. Currently, jute sack bags dominate the market, accounting for the majority of

the sales volume. Growing environmental awareness among the masses has also created an inclination toward natural and biodegradable products, like jute bags, over plastic bags. This, along with many government initiatives, is bolstering the jute industry. For instance, the Government of India has mandated the packaging of food grain and sugar in jute bags. Some of the key players operative in the market include Aarbur, Ashoka Exports, Hitaishi-KK, Howrah Mills Co. Ltd., Shree Jee International India Ltd. and Gloster Limited.

The growing demand for eco-friendly products in the market is where coir should fast step in. It is a lightweight, soilless growing medium made from the fibers which completely renewable and considered an excellent choice for environmental sustainability. The efforts support the market expansion for coir and the Asia Pacific hopes to further increase production by streamlining the fiber collection process to meet demand.

The Major contents of the Book are BIS Specifications, Jute: an eco-friendly opportunity for a sustainable Future, Green Marketing Of Jute and Jute Products, The Jute And Jute Textiles Industry, Jute Cultivation, Potentiality of coir for salient application, Coconut Cultivation, Scheme for the Development of Coir Production Line, Step-by Step approach to start a Coir Industry, Coir Geotextiles, Eco-friendly and natural image of coir, Jute Yarn, Sutli& Hessian Cloth, Jute Twine (Jute Rope), Gunny Bags, Jute Garments, Jute Shopping Bags, Gunny Bags (Jute Bags) Manufacturing, Handmade Paper from Jute, Environment Pollution and Effluent Treatment of Jute, Coir Fibre, Coir Pith, Biomass Charcoal Briquetting from Jute and Coir Waste, Rubberized Coir Mattresses, Coir Pith for Absorption and Recovery of Oil from Contaminated Sites, Application of Coir in Agricultural Textiles, Manufacture of Coir Corrugated Roofing Sheet, Coir Machinery Manufacturers, Plant Layout & Process Flow Sheet and Machinery, Equipment and Product Photograph.

A total guide to manufacturing and entrepreneurial success in one of today's Jute & Coir Products industry. This book is one-stop guide to one of the fastest growing sectors of the Jute & Coir Products industry, where opportunities abound for manufacturers, retailers, and entrepreneurs. This is the only complete handbook on the commercial production of Jute & Coir Products. It serves up a feast of how-to information, from concept to purchasing equipment.

Content

CONTENTS

1. INTRODUCTION

Jute

Classification of Jute Products

1. Conventional Products

2. Speciality Products

3. Non-Traditional Products

4. Diversified Products Scheme for Modernization of Organised Jute Mills

1. Training of Workers & Supervisors

2. Machinery Development

3. Productivity Improvement & TQM Facilitation

4. Acquisition of Machinery and Plant

(Subsidy Component) Coir

A. Modernisation of Production Processes

B. Development of Machinery and
Equipments

C. Product Development and Diversification

D. Development of Environment Friendly
Technologies

2. BIS SPECIFICATIONS

Jute

Coir

3. JUTE: AN ECO-FRIENDLY OPPORTUNITY FOR A SUSTAINABLE FUTURE

Long-term Strategy

4. GREEN MARKETING OF JUTE AND JUTE PRODUCTS

Green Products

Jute – A Green Product

Jute Production in India

Objective

Research Methodology

Nature of Data

Source of Data

Sampling Technique

Analysis and Findings

Manufacturing of Jute & Co-Operative

Jute Mill

Jute Products Produced Co-Operative Jute

Jute Market Development and Promotion

Challenges of Jute Marketing

Scheme for Promotion of Jute

Diversification

1. Design & Development of Jute

Diversified Products

2. Scheme for helping NGOs and Women

Self-Help-Groups (WSHGs)

3. Scheme for Promotion of Jute

Diversification

4. Scheme for Commercialization of

Technology

5. Scheme for Setting up of Jute Parks for
the Diversified Sector

5. THE JUTE AND JUTE TEXTILES INDUSTRY

Development and Regulatory Organizations in Jute Sector

(a) Organizations under Ministry of Textiles

Jute Manufactures Development Council (JMDC)

(b) Other Organizations supported by Ministry of Textiles in Jute Sector

International Jute Study Group (IJSJ) Incentives to Jute Sector

(a) Extension of Duty Entitlement Pass Book (DEPB) Benefits to Jute Products

(b) Technology Up gradation Fund Scheme (TUFFS)

(c) Jute Technology Mission Objectives of JTM are

(d) Non Plan Schemes of JMDC

6. JUTE CULTIVATION

Raw Jute Scenario

Botanical Description of Jute

Jute Growing Zones

Manures and Fertilizer Application

Varieties

Seed Rate and Sowing

Weed Management

Top Dressing of Fertilizer

Water Management

Harvest

Yield

Sowing Process of Jute

Harvesting Process of Jute Retting Practices

- a. Retting Practices in India and Bangladesh
- b. Retting Practices in China
- c. Double Immersion/Single-Wash-Retting in China
- d. Retting Practices in Indonesia
- e . Retting Practices in Nepal
- f. Retting Practices in Thailand

Extraction Practices

Single Stem Stripping

Stripping and Washing or Wash-Jerk-
Method

Indian Jute Industry at a Glance

Major Producers of Jute

Jute and Mesta in the National Economy

From Jute to Diversified Products

7. POTENTIALITY OF COIR FOR SALIENT APPLICATION

Introduction

Raw Material Availability & Traditional
Application

Swot Analysis of Coir Products

Value Addition Present Status Through
Collaborative Project Amongst IICT & CCRI

Value Addition Prospects

Scope of the Study

Potentials of Coir as Technical Textile

Fiber

Introduction

Coir as Technical Textile

Use of Coir as Agrotech

Use of Coir as Buildtech

Use of Coir as Clothtech

Use of Coir as Geotech

Use of Coir as Homotech

Use of Coir as Indutech

Use of Coir as Meditech

Use of Coir as Mobiltech

Use of Coir as Oekotech (Ecotech)

8. COCONUT CULTIVATION

Origin

Climate and Soil

Varieties of Coconut

Tall Varieties

Dwarf Varieties - Suitable for Tender

Coconut

Hybrid Varieties

Planting Material

Site Selection

Time of Planting

Spacing and Systems of Planting

Planting

9. SCHEME FOR THE DEVELOPMENT OF COIR PRODUCTION LINE

Coir Udyami Yojana

Scheme for the Development of Production

Infrastructure Under Coir Vikas Yojana

Skill Up gradation & Mahila Coir Yojana

Under Coir Vikas Yojana

10. STEP-BY STEP APPROACH TO START A COIR INDUSTRY

1. Identifying the Opportunity

2. Making a Product Choice

3. Process Selection

Machinery and Equipment

4. Arranging Finance

5. Filing of Udyog Aadhaar Registration

6. Construction of Building

7. Getting the Utility Connections

8. Getting 3M's Right

Men

Machinery

Materials

11. COIR GEOTEXTILES

Coir Geotextiles for Strengthening Soft Soil

Subgrade

Application of Geotextile Separation

Filtration

Reinforcement

Use of Coirgeotextiles in Unpaved Roads

Subgrade Separation and Stabilization

Typical Solutions

Geotextile Benefits

Base Reinforcement

Coir as a Suitable Geotextile Material for Roads

Reinforcement

As Filter/Drainage Layer

Strength of Subgrade

Field Installation of Geotextile

Long Term Performance of Coir Geotextile

Methodology

Visual Evaluation

Coir Geotextile for Erosion Control

Universal Soil Loss Equation

Coir Geotextiles

Fuzzy Logic Results

Selection of Coir Geotextile

Coir Fibre and Its Application as Erosion Control Mats

Mechanism of Erosion Control

Coir Geotextile for Construction of Roads in Rural Areas

Benefits

The Coir Geotextiles - Natural Solution to Nature's Problem

Historic, Economic and Political Background

Coir Geo Textiles for Environmental Application

Types of Coir Bhoovastra

1. Open Weave Coir Bhoovastra
 2. Geo Rolls and Vegetation Fascines
 3. Non-woven Felts
- Coir Needled Felt
4. Cocologs

5. Coir Fiber Beds (Cocobeds)

6. Coir Loop Fabric

7. Coir Cell Geo Textiles

Application of Coir Geo Textiles

a) For Soil Erosion Control

Site Preparation

Fixation

Laying

Vegetation & Seeding

Monitoring

b) Sub-base layer in Village/Rural Roads/

Reinforcement of Paved Roads

c) Application in the Waste Dumping Yards
of Mines

Coir Pith Based Cyanobacterial

Biofertilizers

Cyanobacteria

Coir Pith Degradation

Cyanopith and Cyanospray

Treatment of Textile Effluent

Treatment of Tannery Effluent

Field Trials

Benefits of Coir Pith for Cyanopith and

Cyanospray

As Production

As Biofertilizers

Organic Farming with Self-Aerated Large-
Scale Composted Coir Pith

Market of Organically Grown Food

Sustainability Factors of Organic Farming

Coir Pith

Coir Pith Composting Methods

New Method for Coir Pith Composting

Overall Biochemical Reaction of

Composting and Rate of Product Formation

Composted Coir Pith Use for Organic
Farming

Potential of Bio Composting of Coir Pith

Structure of Coir Pith

Materials and Methods

Culture Inoculum
Coir Pith and Biological Supplements
a. Azolla
Culture Conditions
Diversified Uses of Coir Pith and Coir Pith
Organic Manure (C-POM)
(a) Growing Media
(b) As Amendment
(c) As a Substitute to Peat Moss
(d) As an Organic Fertilizer
(e) As a Base for Home/Vertical/Roof
Garden
(f) As a Base for the Preparation of
Cocolawn
Binderless Coir Wood
Introduction
Materials and Methods
Materials
Methods
Drying of the Materials
Sieving
Hot Pressing
Effect of Moisture
Effect of Temperature
Effect of Pressure and Cooling Under
Pressure

12. ECO-FRIENDLY AND NATURAL IMAGE OF COIR

Price and Performance of Improved
Products
Marketing Strategy
Supply
Promotional Programmes

13. JUTE YARN, JUTE SUTLI & HESSIAN CLOTH

Weaving Integrated Unit
Introduction
Uses & Applications
Properties

Manufacturing Process

Twin Cord Making

Twin Cord Softening Section

Manufacturing Process of Hessian Cloth

Process Flow Diagram

Detailed Manufacturing Process of Jute

Yarns & Other Jute Processing

Batching

Drawing

Roving

Spinning

Twisting

Reeling

Winding

Dressing and Beaming

Weaving

Looms

Finishing

Machinery Details and Specifications

1. Spinning Machine and Spreader

Details

Specifications

2. High Speed Automatic Electronic

Weaving Rapier Loom

Details

Specifications

3. Bale Opener

Details

Specifications

14. JUTE TWINE (JUTE ROPE), GUNNY BAGS

Properties of Jute

Manufacturing Process Jute Twine Cum

Gunny Bag

Basic Raw Materials Required

Basic Plant and Machineries Required

Process

Small Qualities of Jute Goods

Spinning

Twisting

Weaving

Manufacturing Process Flow Diagram

Machinery Details and Specifications

1. Spinning Machine

Details

Specifications

2. Twister Roller

Details

Specifications

15. JUTE GARMENTS

Introduction

Properties of Jute Garments

Uses of Jute Garments

Manufacturing Process of Jute Garments

Here Jute Garments Means

Basic Raw Materials Required

Basic Plant and Machinery Required

Manufacturing Process Flow Diagram

Machinery Details and Specifications

1. Weaving Machine

Details

Specifications

2. Drying Equipment

Details

Specifications

1. Sewing Machine

Quick Details

Specifications

16. JUTE SHOPPING BAGS

A. Modernisation of Production Processes

Introduction

Properties of Jute Shopping Bags

Uses & Applications

Manufacturing Process

Raw Material Required

Plant and Machinery Required

Process

Process Flow Diagram

Machinery Details and Specification

1. Sewing Machine

Quick Details

Specifications

17. GUNNY BAGS (JUTE BAGS) MANUFACTURING

Introduction

1. Hessian

2. Sacking

3. Canvas

Product Description

Uses and Applications

Application of Gunny Bags

1. Food Grains

2. Sugar

3. Cement

4. Fertilizers

5. Chemicals

Manufacturing Process

Inspection of Hessian Cloth

Set Making

Marking

Cutting

Stitching

Inspection of the Bags

Packaging

Process Flow-Sheet for the Manufacture of
Gunny Bags

Machinery details and specifications

1. Sewing Machine

Quick Details

Specifications

18. HANDMADE PAPER FROM JUTE

Introduction

Steps of Manufacturing Process

Machinery Details and Specifications

1. Jute Chopper and Cutter

Company details

2. Hydraulic Press Machine

Company details

3. Calendaring Machine

Company details

4. Cutting Machine

Company details

19. ENVIRONMENT POLLUTION AND EFFLUENT TREATMENT OF JUTE

Effluent Treatment Plant Equipment

20. COIR FIBRE

Coir

Coconut

Structure

Coir Fibre

Processing

Brown Fibre

White Fibre

Major Producers

Kerala Fibre

Bio-Softening and Bio-Bleaching/

Brightening of Coir Fibre

Short-Term Objective of the Softening

Process

Long-Term Objective of the Softening

Process

Biotechnological Process of Softening and

Bleaching/Brightening

Enzymes Used

Preparation of Media

Molasses Broth Medium

Potato Dextrose Broth Medium

Crude Enzyme Preparation

Treatment of Dry Husk

Results

Improvement in Softness of Dry Husk

21. COIR PITH

Introduction

Application of Coir Pith

Special Features of Coir-Pith

Uses of Coir Pith Blocks

Role of Our Coir Pith Blocks

Manufacturing Process of Coir Pith

Raw Materials

Harvesting and Husking

Retting

Defibering

Finishing

Process Flow Diagram

Machinery Details and Specifications

1. Coir Pith Baling Machine

Details

Specifications

Block Specifications

Machine Specifications

Hydraulic Power Unit

2. Coir Pith Machine

Details

Technical Specifications

Features

Contact Details

3. Crusher

Company Details

4. Industrial Screener

Details

Machine Specifications

Company Details

22. BIOMASS CHARCOAL BRIQUETTING FROM JUTE AND COIR WASTE

Introduction

What is Charcoal?

What can be Briquetted?

What is Biomass Charcoal Briquetting?

Biomass Charcoal Briquette Production

Raw Materials Required

Process in Manufacturing

1. Biomass collection
2. Carbonization Process
 - I. Briquettes Drying Stage
 - II. Initial Carbonization Stage
 - III. Comprehensive Carbonizing Stage
(temperature 300~6500C)
3. Briquetting

Steps for Manufacturing
Process Flow diagram
Machinery Details and Specifications
Company Details

23. RUBBERIZED COIR MATTRESSES

Introduction
Types & Structure of Coir Fibre
Uses and Applications
Properties of Coir
Physical Properties of Coir Fibre
Chemical Properties (Composition)
Advantages of Rubberized Coir Mattresses
Manufacturing Process
Embedding of Coir Fibres
Combing
Leveling

1. Dispersion
2. Solution Preparation

Process Flow Diagram
Production Details of the Product
Machinery Details and Specifications

1. Coir Mattresses Machine

Key Features of Machine
Types of Different Width of Production of by
Machine
Space Required
Power Required
Contact Details

24. COIR PITH FOR ABSORPTION AND RECOVERY OF OIL FROM CONTAMINATED SITES

Introduction

Process

Methodology

Performance Result of the Screw Press

25. APPLICATION OF COIR IN AGRICULTURAL TEXTILES

Introduction

Properties

Uses of Coir in Agricultural Textiles

Erosion Control Blankets for Controlling

Slope Erosion

Mulch Blankets

Basket Liners

Bio-Rolls

Roof Greening Mats

Grow Sticks

Coco Logs

Grow Media

26. MANUFACTURE OF COIR CORRUGATED ROOFING SHEET

Introduction

(1)Physical Properties of Coir Fibre

(2)Chemical Properties (Components of
Coir Fibre)

Materials and Methods for the

Manufacture of Coir Corrugated Sheets

1. Coconut Coir Non-Woven Felt

2. Woven Bamboo Mat

3. Resin

Raw Materials for Resin Manufacture

Novolacs

Applications

Test Methods to Assess the Quality of
Cardanol

4. BOPP Film as Releasing Agent

5. Preservative Chemicals

Batch Resin Reactor or Resin Kettle

1. Preparation of Phenol Formaldehyde
Resin

Flow Chart for Preparation of PF Resin

2. Preparation of Phenol Cardanol

Formaldehyde Resin

Flow Chart for Preparation of PCF Resin

Phenol-Methanol Polymerization of Resin

Consolidation of Non-Woven Coir Felt

Construction of coir and bamboo mat for
Corrugated Sheet

Machinery/Equipment

Significant Aspect in Manufacture of Coir
Felt Corrugated Sheet

Moisture Content of Coir Felt and Mats

PCF Resin Adhesive Formulation [for
bonding]

Requirement of PCF Resin

Impact of Resin Quality

Glue Application on the Coir Felt and
Bamboo Mat

Balance and Drying of Resin Coated Mats

Assembly of Coir Felts/Mats

Hot Pressing

Dimensioning and Finishing of Coir

Corrugated Sheets

Test Performed on Coir Felt Corrugated
Sheets

List of Machinery and Equipment

List of Raw Materials

Suppliers and Manufacturers of Plant
Machinery

1. Automatic Corrugated Roofing Sheet
Machine

Quick Details

Specifications

Company Details

2. FRP Roofing Sheets Making Machine

Quick Details

Specifications

Technology Parameter

Company Details

27. COIR MACHINERY MANUFACTURERS

28. PLANT LAYOUT AND PROCESS FLOW SHEETS

29. MACHINERY, EQUIPMENT AND PRODUCT PHOTOGRAPHS

About NIIR Project Consultancy Services (NPCS)

NIIR Project Consultancy Services (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. Its various services are: Pre-feasibility study, New Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Preparation of Project Profiles and Pre-Investment and Pre-Feasibility Studies, Market Surveys and Studies, Preparation of Techno-Economic Feasibility Reports, Identification and Selection of Plant and Machinery, Manufacturing Process and/or Equipment required, General Guidance, Technical and Commercial Counseling for setting up new industrial projects and industry. NPCS also publishes various technology books, directories, databases, detailed project reports, market survey reports on various industries and profit making business. Besides being used by manufacturers, industrialists, and entrepreneurs, our publications are also used by Indian and overseas professionals including project engineers, information services bureaus, consultants and consultancy firms as one of the inputs in their research.

NIIR PROJECT CONSULTANCY SERVICES

106-E, Kamla Nagar, New Delhi-110007, India.

Tel: 91-11-23843955, 23845654, 23845886, +918800733955

Mobile: +91-9811043595

Email: npcs.ei@gmail.com, info@entrepreneurindia.co

Website: www.entrepreneurIndia.co