

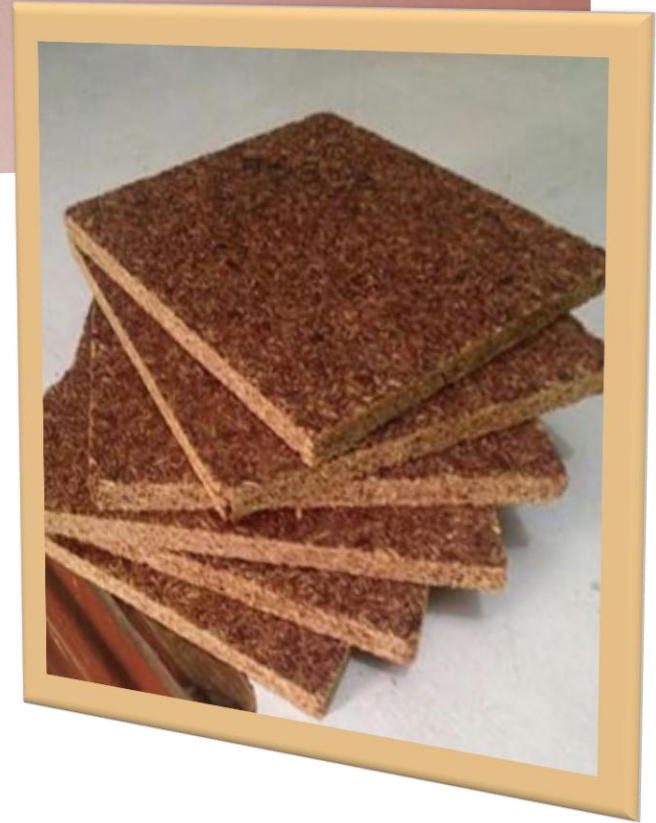
Investment Opportunities in *Particle Board From Rice Husk Project*

Rice is a major food crop in many regions of the world. Due to global demand, rice production is expected to grow from year to year. Rice husk (RH) is the outer covering of the rice grain and is obtained during the milling process. RH constitutes 20% of the total rice produced.



As a renewable material, the use of RH can eliminate waste disposal and support environmental protection.

Rice husk particleboard is one such material which is being considered as a potential substitute for wood and wood-based board products.



Particleboard is cheaper, denser and more uniform than conventional wood and plywood and is substituted for them when appearance and strength are less important than cost.



Rice hulls (or rice husks) are the hard protecting coverings of grains of rice.

Construction industry is one of the fastest growing sectors in India. Rapid construction activity and growing demand of houses has lead to the short fall of traditional building materials.



Bricks, Cement, sand, and wood are now becoming scarce materials. It is used in the construction industry as prefabricated houses or as ceiling materials in monolithic structure. Particleboard is also used in the furniture and wood industries where it is used as a substitute for wooden boards.

There is huge demand of particle board in India and all over world. Particle board market growing very fast. Due to growing deforestation there is bright future of particle board. Any entrepreneur can well venture in this project.



Demand of good quality of building materials to replace the traditional materials and the need for cost effective and durable materials for the low cost housing has necessitated the researchers to develop variety of new and innovative building materials.

Construction materials of special requirements for the houses in different geographical region to overcome the risk of natural hazard and for protection from severe climatic conditions has also emphasised the need for development of lightweight, insulating, cost effective, durable and environment friendly building materials.

Agricultural waste or residue is made up of organic compounds from organic sources such as rice straw, oil palm empty fruit bunch, sugar cane bagasse, coconut shell, and others. Rice husk from paddy (*Oryza sativa*) is one example of alternative material that can be potentially used for making particle board.

Rice husk is unusually high in ash, which is 92 to 95% silica, highly porous and lightweight, with a very high external surface area. Its absorbent and insulating properties are useful to many industrial applications, such as acting as a strengthening agent in building materials. Rice husks are processed into rectangular shaped particle boards.

Particle board is as the name suggests a board made of particles of wood obtained mechanically without destroying the inherent character of wood. This new industry initially was started primarily with a view to utilize wood waste.



Wood that was left in the forest being unsuitable for lumber industry and wood that was thrown away as waste in various wood industries, (e.g. sawmills, furniture making plywood Industries) could be utilized in making particle board. It may be mentioned here that fiber board also utilizes the same wood waste; the wood is converted into pulp and pressed the bond being obtained mainly from the natural lignin present in wood.

In case of particle board, the bond is obtained by using an organic binder-synthetic resin adhesive. The accepted definition of particle board is A sheet material manufactured from small pieces of wood on other lignocelluloses materials, (e.g. chips, flakes, splinters, strands, shives, etc.) agglomerated by use of an organic binder together with one or more of the following agents heat, pressure, moisture a catalyst etc.

Uses & Applications The property of this board can be controlled. It has got better acoustic properties and hence better sound absorption. It does not support combustion, thus it is safe to use as it is fine safety measure. It is insect and termite resistant. It is water resistant. It is more economical. It is used in furniture making where cost economy is the main factor. It is used both for movable and built in furniture.

Market Survey The large producers account for 15% of the total production, producing some 38 mn sq. m of plywood and block boards. The ecological considerations had, however, placed the industry in jeopardy owing primarily to the restraints put on the use of timber. Alternate materials from agricultural wastes like stalks of cotton and wheat, rice husk and bagasse are slowly getting into the industry as raw material feeds.

Kitply Industries, Sarda Plywood, Century Plywood, Novapan, National Plywood, Green-ply and Jayshree Tea remain the main players in the organized sector of plywoods and particle boards, which has some 60 units. There are several SSI units and other informal sector units contributing around 60% of the total production. The Indian market for particle board and plywood is estimated in value terms, at over Rs 37 bn. Of the total market, particle board including medium density fiber board (MDF board) accounts for nearly a quarter of the market.

Nearly 85% of the particle board is supplied by the organized sector. Western India has emerged as the leader in the particle board segment. Shirdi Industries (SIL) was setting up a plant for the manufacture of MDF and particle board. The project, which will be India's first and only integrated plant providing complete interior solutions, was being set up at Uttarakhand.

It was mainly because of the state government granting the company a status, entitling the company to excise duty, income tax and sales tax exemption besides investment subsidy. The company is also producing pre-laminated board, decorative laminates, floorings, panel door and furniture components from the facility.

Few Indian Major Players are as under:

- Archidply Industries Ltd.
- Bajaj Eco-Tec Products Ltd.
- Bajaj Hindustan Ltd.
- Ecoboard Industries Ltd.
- Feroke Boards Ltd.
- Genus Paper Products Ltd.
- Kitply Industries Ltd.

- 
- **Novopan Industries Ltd.**
 - **Nuboard Manufacturing Co. Ltd.**
 - **Rushil Decor Ltd.**
 - **Shapoorji Pallonji & Co. Ltd.**
 - **Shirdi Industries Ltd.**
 - **Western India Plywoods Ltd.**

Project at a Glance

<i>Capacity:</i>	15 Lakh Nos. /annum
<i>Plant & Machinery:</i>	Rs. 28 Lakhs
<i>Cost of Project:</i>	Rs. 129 Lakhs
<i>Rate of Return:</i>	46%
<i>Break Even Point:</i>	38%

**Niir Project Consultancy Services (NPCS)
can provide Detailed Project Report on
Precipitated Silica from Rice Husk Ash**

See more:

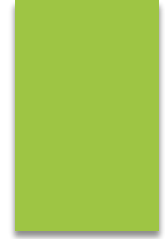
<http://goo.gl/SlKSZO>

Our Detailed Project Report Contains

➤ Introduction

- Project Introduction
- Project Objective and Strategy
- Concise History of the Product
- Properties
- BIS (Bureau of Indian Standards) Provision & Specification
- Uses & Applications

➤ Market Study and Assessment



- Current Indian Market Scenario
- Present Market Demand and Supply
- Estimated Future Market Demand and Forecast
- Statistics of Import & Export
- Names & Addresses of Existing Units (Present Players)
- Market Opportunity

➤ Raw Material

- List of Raw Materials
- Properties of Raw Materials
- Prescribed Quality of Raw Materials
- List of Suppliers and Manufacturers

➤ Personnel (Manpower) Requirements

- Requirement of Staff & Labor (Skilled and Unskilled) Managerial, Technical, Office Staff and Marketing Personnel

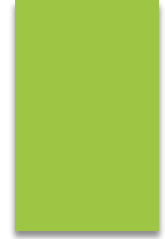
➤ Plant and Machinery

- List of Plant & Machinery
- Miscellaneous Items
- Appliances & Equipments
- Laboratory Equipments & Accessories
- Electrification
- Electric Load & Water
- Maintenance Cost
- Sources of Plant & Machinery (Suppliers and Manufacturers)

➤ Manufacturing Process and Formulations

- Detailed Process of Manufacture with Formulation
- Packaging Required
- Process Flow Sheet Diagram

➤ Infrastructure and Utilities



- Project Location
- Requirement of Land Area
- Rates of the Land
- Built Up Area
- Construction Schedule
- Plant Layout and Requirement of Utilities

Along with project financials, as under:

- Assumptions for Profitability workings
- Plant Economics
- Production Schedule
- Land & Building

Factory Land & Building

Site Development Expenses

- Plant & Machinery

Indigenous Machineries

Other Machineries (Miscellaneous, Instruments,
Laboratory Equipments and Accessories etc.)

- Other Fixed Assets

Furniture & Fixtures

Pre-operative and Preliminary Expenses

Technical Knowhow

Provision of Contingencies

- **Working Capital Requirement Per Month**

Raw Material

Packing Material

Lab & ETP Chemical Cost

Consumable Store

- **Overheads Required Per Month and Per Annum**

Utilities & Overheads (Power, Water and Fuel Expenses etc.)

Royalty and Other Charges

Selling and Distribution Expenses

- 
- Salary and Wages
 - Turnover per Annum
 - Share Capital

Equity Capital

Preference Share Capital

- **Annexure 1 :: Cost of Project and Means of Finance**
- **Annexure 2 :: Profitability and Net Cash Accruals**

Revenue/Income/Realisation

Expenses/Cost of Products/Services/Items

Gross Profit

Financial Charges

Total Cost of Sales

Net Profit After Taxes

Net Cash Accruals

- **Annexure 3 :: Assessment of Working Capital requirements**

Current Assets

Gross Working. Capital

Current Liabilities

Net Working Capital

Working Note for Calculation of Work-in-process

- **Annexure 4 :: Sources and Disposition of Funds**

- **Annexure 5 :: Projected Balance Sheets**

ROI (Average of Fixed Assets)

RONW (Average of Share Capital)

ROI (Average of Total Assets)

- **Annexure 6 :: Profitability ratios**

D.S.C.R

Earnings Per Share (EPS)

Debt Equity Ratio

- **Annexure 7 :: Break-Even Analysis**

Variable Cost & Expenses

Semi-Var./Semi-Fixed Exp.

Profit Volume Ratio (PVR)

Fixed Expenses / Cost

B.E.P

- **Annexure 8 to 11 :: Sensitivity Analysis-
Price/Volume**

Resultant N.P.B.T

Resultant D.S.C.R

Resultant PV Ratio

Resultant DER

Resultant ROI

Resultant BEP

- **Annexure 12 :: Shareholding Pattern and Stake Status**

Equity Capital

Preference Share Capital

- **Annexure 13 :: Quantitative Details-Output/Sales/Stocks**

Determined Capacity P.A of Products/Services

Achievable Efficiency/Yield % of Products/Services/Items

Net Usable Load/Capacity of Products/Services/Items

Expected Sales/ Revenue/ Income of Products/ Services/ Items

- **Annexure 14** :: **Product wise domestic Sales Realisation**
- **Annexure 15** :: **Total Raw Material Cost**
- **Annexure 16** :: **Raw Material Cost per unit**
- **Annexure 17** :: **Total Lab & ETP Chemical Cost**
- **Annexure 18** :: **Consumables, Store etc.,**
- **Annexure 19** :: **Packing Material Cost**
- **Annexure 20** :: **Packing Material Cost Per Unit**

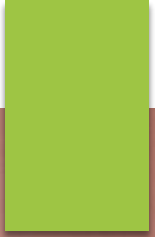
- **Annexure 21 :: Employees Expenses**
- **Annexure 22 :: Fuel Expenses**
- **Annexure 23 :: Power/Electricity Expenses**
- **Annexure 24 :: Royalty & Other Charges**
- **Annexure 25 :: Repairs & Maintenance Exp.**
- **Annexure 26 :: Other Mfg. Expenses**
- **Annexure 27 :: Administration Expenses**
- **Annexure 28 :: Selling Expenses**

- **Annexure 29 :: Depreciation Charges – as per Books (Total)**
- **Annexure 30 :: Depreciation Charges – as per Books (P & M)**
- **Annexure 31 :: Depreciation Charges - As per IT Act WDV (Total)**
- **Annexure 32 :: Depreciation Charges - As per IT Act WDV (P & M)**
- **Annexure 33 :: Interest and Repayment - Term Loans**
- **Annexure 34 :: Tax on Profits**
- **Annexure 35 :: Projected Pay-Back Period And IRR**



See more:

<http://goo.gl/SIKSZO>



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CONSULTANCY SERVICES on #StreetView**

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Niir PROJECT CONSULTANCY SERVICES

An ISO 9001:2008 Company

Who are we?

- ▶ One of the leading reliable names in industrial world for providing the most comprehensive technical consulting services
- ▶ We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad

What do we offer?

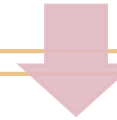
- ▶ Project Identification
- ▶ Detailed Project Reports/Pre-feasibility Reports
- ▶ Market Research Reports
- ▶ Technology Books and Directory
- ▶ Databases on CD-ROM
- ▶ Laboratory Testing Services
- ▶ Turnkey Project Consultancy/Solutions
- ▶ Entrepreneur India (An Industrial Monthly Journal)

How are we different ?

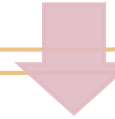
- ▶ We have two decades long experience in project consultancy and market research field
- ▶ We empower our customers with the prerequisite know-how to take sound business decisions
- ▶ We help catalyze business growth by providing distinctive and profound market analysis
- ▶ We serve a wide array of customers , from individual entrepreneurs to Corporations and Foreign Investors
- ▶ We use authentic & reliable sources to ensure business precision

Our Approach

Requirement collection



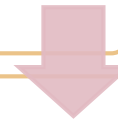
Thorough analysis of the project



Economic feasibility study of the Project



Market potential survey/research



Report Compilation

Who do we serve?

- ▶ Public-sector Companies
- ▶ Corporates
- ▶ Government Undertakings
- ▶ Individual Entrepreneurs
- ▶ NRI's
- ▶ Foreign Investors
- ▶ Non-profit Organizations, NBFC's
- ▶ Educational Institutions
- ▶ Embassies & Consulates
- ▶ Consultancies
- ▶ Industry / trade associations

Sectors We Cover

- ▶ Ayurvedic And Herbal Medicines, Herbal Cosmetics
- ▶ Alcoholic And Non Alcoholic Beverages, Drinks
- ▶ Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin
- ▶ Activated Carbon & Activated Charcoal
- ▶ Aluminium And Aluminium Extrusion Profiles & Sections,
- ▶ Bio-fertilizers And Biotechnology
- ▶ Breakfast Snacks And Cereal Food
- ▶ Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling

Sectors We Cover *Cont...*

- ▶ Bamboo And Cane Based Projects
- ▶ Building Materials And Construction Projects
- ▶ Biodegradable & Bioplastic Based Projects
- ▶ Chemicals (Organic And Inorganic)
- ▶ Confectionery, Bakery/Baking And Other Food
- ▶ Cereal Processing
- ▶ Coconut And Coconut Based Products
- ▶ Cold Storage For Fruits & Vegetables
- ▶ Coal & Coal Byproduct

Sectors We Cover *Cont...*

- ▶ Copper & Copper Based Projects
- ▶ Dairy/Milk Processing
- ▶ Disinfectants, Pesticides, Insecticides, Mosquito Repellents,
- ▶ Electrical, Electronic And Computer based Projects
- ▶ Essential Oils, Oils & Fats And Allied
- ▶ Engineering Goods
- ▶ Fibre Glass & Float Glass
- ▶ Fast Moving Consumer Goods
- ▶ Food, Bakery, Agro Processing

Sectors We Cover *Cont...*

- ▶ Fruits & Vegetables Processing
- ▶ Ferro Alloys Based Projects
- ▶ Fertilizers & Biofertilizers
- ▶ Ginger & Ginger Based Projects
- ▶ Herbs And Medicinal Cultivation And Jatropha (Biofuel)
- ▶ Hotel & Hospitality Projects
- ▶ Hospital Based Projects
- ▶ Herbal Based Projects
- ▶ Inks, Stationery And Export Industries

Sectors We Cover *Cont...*

- ▶ Infrastructure Projects
- ▶ Jute & Jute Based Products
- ▶ Leather And Leather Based Projects
- ▶ Leisure & Entertainment Based Projects
- ▶ Livestock Farming Of Birds & Animals
- ▶ Minerals And Minerals
- ▶ Maize Processing(Wet Milling) & Maize Based Projects
- ▶ Medical Plastics, Disposables Plastic Syringe, Blood Bags
- ▶ Organic Farming, Neem Products Etc.

Sectors We Cover *Cont...*

- ▶ Paints, Pigments, Varnish & Lacquer
- ▶ Paper And Paper Board, Paper Recycling Projects
- ▶ Printing Inks
- ▶ Packaging Based Projects
- ▶ Perfumes, Cosmetics And Flavours
- ▶ Power Generation Based Projects & Renewable Energy Based Projects
- ▶ Pharmaceuticals And Drugs
- ▶ Plantations, Farming And Cultivations
- ▶ Plastic Film, Plastic Waste And Plastic Compounds
- ▶ Plastic, PVC, PET, HDPE, LDPE Etc.

Sectors We Cover *Cont...*

- ▶ Potato And Potato Based Projects
- ▶ Printing And Packaging
- ▶ Real Estate, Leisure And Hospitality
- ▶ Rubber And Rubber Products
- ▶ Soaps And Detergents
- ▶ Stationary Products
- ▶ Spices And Snacks Food
- ▶ Steel & Steel Products
- ▶ Textile Auxiliary And Chemicals

Sectors We Cover *Cont...*

- ▶ Township & Residential Complex
- ▶ Textiles And Readymade Garments
- ▶ Waste Management & Recycling
- ▶ Wood & Wood Products
- ▶ Water Industry(Packaged Drinking Water & Mineral Water)
- ▶ Wire & Cable

Niir Project Consultancy Services

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

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

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

Mobile: +91-9811043595

Fax: +91-11-23841561

Website :

www.niir.org

www.entrepreneurindia.co

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