



Value-Added Processing of Rice and Rice By-Products.

Rice Processing and Products made from Rice

Introduction

Rice is the most important cereal food crop of India, occupying one-fourth of the gross cropped area of the country. As the basic food crop, rice is cultivated comfortably in hot and humid climate. In the country, the crop is mainly grown as a Kharif crop in rainfed areas that receive heavy annual rainfall.

India is the second largest rice producer in the world after China, with 21% of the global production share. The rice production has increased by 3.5 times in the last 60 years. The country's productivity is higher than Thailand and Pakistan at 2.2tons/ha.



Major Rice producing states in India are West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab, Tamil Nadu, Odisha, and Bihar. India has been the top exporter in global rice trade, accounting for 25% of the export in the last four years. Indian rice caters to the Middle East and Africa for non-Basmati, and the EU and the US for Basmati variety.

Rice and rice-based products derived from rice grain and rice flour include parboiled rice; quick-cooking rice and ready-to-eat convenience foods; rice flours; rice starch; cakes and puddings; baked breads and crackers; breakfast cereals and expanded rice products; extrusion-cooked and puffed-rice snacks; noodles, paper, and pasta; baby/weaning foods; fermented foods and beverages; pet foods; and bran products.





Value addition also enhances the profitability of rice production. A wide range of product development like processed and canned, ready-to-eat products, vitamin, iron or calcium enriched flaked or puffed rice, flavoured rice, starch extraction from broken rice and so on are nowadays getting popular. Value-added products from organic rice and therapeutic value medicinal rice varieties have good niche in domestic and export markets.

Rice is one of the most common staple foods that people usually consume around the world. By-products from the rice milling process have high amounts of nutrients when compared to white rice itself. Rice straw, rice hull, broken rice, rice germ, rice bran, rice bran oil and wax are the by-products from the rice industry. These by-products usually have basic applications in their original form, but now can be used as raw materials for different value-added research or in food applications with functional properties.



Rice by-products not only contain various types of functional components, but also contain dietary fiber. The fiber can be mostly found in rice hull and the types of fiber present include cellulose, hemicellulose, lignin and hydrated silica. Because of the high fiber content in rice hull and rice bran, they are used as ingredients by the bakery industries to increase the fiber content and improve the nutrition of bakery products.



Following are few Business Ideas for Startup:

➤ Rice Cultivation

Rice is the leading food crop in the developing world in terms of total world production. It represents the staple food for almost two-thirds of the world's population. Rice provides 21% of global human per capita energy and 15% of per capita protein. However, the world's stocks of stored rice grain have been falling in negative correlation to each year's consumption levels which now exceeds actual annual production. Rice is generally considered a semi-aquatic annual grass plant, which can be grown under a broad range of climatic conditions. [Read more](#)





➤ Rice Milling Unit

Rice (*Oryza sativa* L.) is one of the leading food crops of the world, and is produced in all the continents. Rice was an important food even before the dawn of written history. One centre of origin of cultivated rice is thought to have been in South East Asia. That is in eastern India. Indo- China and Southern China, Another probably was in Africa. Rice is one of the most important food grains. It is used in almost all homes as eatables. It has good filling capacity as a food grains. Rice is one of the leading food crops of the world. [Read more](#)



➤ **Rice Mill (Parboiled Rice)**

Parboiled rice, popularly known as “ushna” rice in boiled form. India contributes about one-third of the world acreage under rice. Rice is available in over 5000 varieties, of which Izong rice of Assam occupies a important position on account of its superfine grains, pleasant, fine cooking quality, sweet taste, soft texture. This article reviews the quality and traits of Izong rice, particularly the verities grown in different parts of Assam and North Eastern Region. Parboiling is preliminary to hulling in which the rough paddy is first soaked, then steamed and dried before removing the hulls. [Read more](#)



➤ **Rice Powder, Puttu and Wheat Powder**

Wheat flour is a powder made from the grinding of wheat used for human consumption. More wheat flour is produced than any other flour. Wheat varieties are called "soft" or "weak" if gluten content is low, and are called "hard" or "strong" if they have high gluten content. Hard flour, or bread flour, is high in gluten, with 12% to 14% gluten content, and has elastic toughness that holds its shape well once baked. Rice flour (also rice powder) is a form of flour made from finely milled rice. It is distinct from rice starch, which is usually produced by steeping rice in lye.

[Read more](#)





➤ Rice Bran Oil

Rice bran is the main source of rice oil. The majority of available bran continues to be used for animal feeds without being extracted for the oil. Rice oil, also called rice bran oil, has been used extensively in Asian countries. Rice oil is a minor constituent of rough rice when compared with the carbohydrate and protein content. Two major classes of lipids are present: those internal within the endosperm and those associated with the bran. The internal lipids contribute to the nutritional, functional, and sensory qualities of rice. [Read more](#)





➤ Rice Beer

Rice beer is an alcoholic drink generally made from rice. Those who consume moderate amounts of beer (one to two a day at the most) have a 30-40% lower rate of coronary heart disease compared to those who do not drink. Beer contains a similar amount of polyphenols (antioxidants) as red wine and 4-5 times as many polyphenols as white wine. Alcohol has also been attributed of its ability to increase the amount of good cholesterol (HDL) into the bloodstream as well as help to decrease blood clots. [Read more](#)





➤ Rice Flakes

Rice flakes are tasty flakes that are created using rice grains. The process for creating rice flakes involves parboiling the rice, then flattening the grains to product a solid flake. There are a number of rice flake recipes used in Asian cuisine. Often in western countries, rice flakes are used to create cereals and different types of snacks. Once the rice is tender, the cooked grains are rolled, then flattened. The thickness of the flattened rice will depend on the amount of pressure that is applied. [Read more](#)





➤ **Rice Bran Based Solvent Extraction Plant**

Rice has been and continues to be the largest source of human nutrition. Rice bran is a by-product of the rice milling process. Rice bran is the most important source of edible oil among the unconventional sources. Rice bran is the brown coating around the white starchy rice kernel, which is obtained by dehusking paddy and polishing the rice. While white rice holds little nutritional value, the bran that is removed contains 65 percent of the rice kernel's nutrients and boasts a bounty of healthful benefits. [Read more](#)



➤ **Rice Mill, Rice Bran Oil with Captive Power Plant (integrated Unit)**

Paddy is the most important and extensively grown food crop in the World. Rice grain (Oryza sativa) along with hulls/husk is known as paddy. Paddy seed contains a rough, hard and woody outer covering, called husk which make paddy as such inedible. It is the staple food of more than 60 percent of the world population. The rice which is obtained after milling is called raw rice. Nearly 60% of the total rice produced in India is subjected to parboiling. Parboiling is a hydrothermal treatment of paddy followed by drying before milling for the production of milled parboiled rice. [Read more](#)





➤ **Fructose Syrup from Broken Rice (HFS 90%)**

Glucose syrup is a popular substitute for sugar. It is more commonly referred to as corn syrup because its main ingredient is usually cornstarch. From a strictly chemical perspective, glucose syrup is the proper term for any liquid starch consisting of carbohydrates. In addition to cornstarch, it can be made from any form of starch, including wheat, rice or potatoes. Because of its successful and easy bonding with dry or solid substances, this syrup is the preferred sweetener for candy, chewing gum, jams, jellies and canned fruit. [Read more](#)





➤ **Puffed Rice (Muri)**

Puffed Rice is a commonly consumed commodity as a pastime snack. It can be used in combination with nuts such as groundnut or roasted and salted cashews; with fried gram; with Jaggery and coconut gratings, or dusted with salt and spices after enrobing with oil. Since the product is easily digested and assimilated, it finds a wide acceptance among a cross section of the households. It is a versatile product with an excellent market potential. Today the snack food is one of the most important areas of the food industry. [Read more](#)



➤ **Liquid Glucose from Broken Rice**

Liquid Glucose is usually manufactured by subjecting starch to high temperature in the presence of acid. However, Liquid Glucose of same Dextrose Equivalent can be manufactured by enzymatic conversion but the spectrum of saccharides will differ and so also the properties, in comparison to acid converted Liquid Glucose. Liquid Glucose is an aqueous solution of nutritive saccharide obtained by starch hydrolysis, by using Corn and Rice as raw material, which is purified and concentrated to required solids. [Read more](#)





➤ **Parboiled Rice Mill with Rice & Corn Flakes**

The term parboiling covers the operation to which the paddy is subjected before milling. Water and heat are the two main elements in the process. After steeping followed by heating, which involves the action of steam. The rice must be dried milling and storage. Corn flakes are used mainly as break-fast food along with milk. They are also used for making any delicious food by cooking. It contains carbohydrates, protein and starch. [Read more](#)





➤ **Rice Flakes from Broken Rice (Used in Beer Industry)**

Rice flakes are tasty flakes that are created using rice grains. Rice Flakes are used as breakfast food and are famous by the names like poha/chiwda when cooked as breakfast meal. Rice flakes can be consumed with milk as cereal. Wide application of Rice Flakes is in the application of beer industry to produce beer. Rice flakes can also be mixed with other dried grain flakes to create a tasty breakfast cereal. Rice flakes from broken rice used in beer industries, which is cheap convenient and is an innovated concept. [Read more](#)





Tags

Rice and Rice Based Products, Rice Based Products, Rice-Based Value-Added Products, Rice and Rice Products, Rice Based Food Products, Rice Products List, Products Made from Rice, By Products of Rice Pdf, Processed Rice Products, Food Products Made from Rice, Foods Made from Rice, Rice-Based Foods, Rice & Cereal Based Products Manufacture, Rice Processing, Major Processed Rice Products, Milling and Processing, Cereal Processing, Food Products Manufacturing, Rice Cultivation, Cultivation of Rice in India, Rice Crop Cultivation, Rice Milling Unit, Rice Milling, Milling and Processing of Rice, Rice Milling and Processing, Process of Producing Rice Flour, Rice Flour Manufacturing, Production of Rice Flour, Rice Flour Milling, Extraction and utilization of rice bran oil, Rice Bran Oil Extraction, Manufacturing of Rice Bran Oil, Rice Bran Oil, Rice Bran Oil Extraction Process, Rice Bran Oil Extraction Process Pdf, Start Your Own Rice Bran Oil Mill Project, Rice Bran Oil Extraction and Production, Beer from Rice, Rice Beer Manufacturing Plant, Use of Rice in Brewing, Beer Production from Rice, Preparation of Rice Beer, Production of Beer, Brewing With Rice, Rice in Brewing, How to Make Rice Beer, Rice Beer Production, Rice Flakes, Rice Flakes Manufacturing Plant,



Rice Flakes Production Unit, Manufacture of Rice Flakes, Flaked Rice Industry in India, How to make Rice Flakes, Rice Flakes Production Process, Food Products Manufacturing, Rice Bran Based Solvent Extraction Plant, Rice Mill, Rice Bran Oil with Captive Power Plant, Fructose Syrup From Broken Rice (HFS 90%), High-Fructose Corn Syrup, Project Profile on Murmura Manufacturing Unit, Puffed Rice, Puffed Rice (Muri) Manufacturing Business, How to Make "Muri" (Puffed Rice) in Factory, Puffed-Rice (Muri) Making Business, Puffed Rice Manufacture, Liquid Glucose from Broken Rice, Glucose from Broken Rice, Broken Rice Glucose Syrup Processing, Glucose Syrup Processing, Rice Glucose Production, Parboiled Rice Mill with Rice & Corn Flakes, Production of Rice Flakes from Broken Rice (Used in Beer Industry)



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Major Queries/Questions Answered in Our Report?

- 1. How has the industry performed so far and how will it perform in the coming years?**
- 2. What is the Project Feasibility of the Plant?**
- 3. What are the requirements of Working Capital for setting up the plant?**
- 4. What is the structure of the industry and who are the key/major players?**



- 5. What is the total project cost for setting up the plant?**
- 6. What are the operating costs for setting up the plant?**
- 7. What are the machinery and equipment requirements for setting up the plant?**
- 8. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up the plant?**
- 9. What are the requirements of raw material for setting up the plant?**

- 10. Who are the Suppliers and Manufacturers of Raw materials for setting up the plant?**
- 11. What is the Manufacturing Process of the plant?**
- 12. What is the total size of land required for setting up the plant?**
- 13. What will be the income and expenditures for the plant?**
- 14. What are the Projected Balance Sheets of the plant?**

- 15. What are the requirement of utilities and overheads for setting up the plant?**
- 16. What is the Built up Area Requirement and cost for setting up the plant?**
- 17. What are the Personnel (Manpower) Requirements for setting up the plant?**
- 18. What are Statistics of Import & Export for the Industry?**
- 19. What is the time required to break-even?**

- 20. What is the Break-Even Analysis of the plant?**
- 21. What are the Project financials of the plant?**
- 22. What are the Profitability Ratios of the plant?**
- 23. What is the Sensitivity Analysis-Price/Volume of the plant?**
- 24. What are the Projected Pay-Back Period and IRR of the plant?**
- 25. What is the Process Flow Sheet Diagram of the plant?**
- 26. What are the Market Opportunities for setting up the plant?**
- 27. What is the Market Study and Assessment for setting up the plant?**
- 28. What is the Plant Layout for setting up the plant?**



Reasons for Buying Our Report:

- The report helps you to identify a profitable project for investing or diversifying into by throwing light to crucial areas like industry size, market potential of the product and reasons for investing in the product**
- The report provides vital information on the product like it's characteristics and segmentation**
- The report helps you market and place the product correctly by identifying the target customer group of the product**



- **The report helps you understand the viability of the project by disclosing details like machinery required, project costs and snapshot of other project financials**
- **The report provides a glimpse of government regulations applicable on the industry**
- **The report provides forecasts of key parameters which helps to anticipate the industry performance and make sound business decisions**



Our Approach:

- **Our research reports broadly cover Indian markets, present analysis, outlook and forecast for a period of five years.**
- **The market forecasts are developed on the basis of secondary research and are cross-validated through interactions with the industry players**
- **We use reliable sources of information and databases. And information from such sources is processed by us and included in the report**



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NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

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And before diversifying/venturing into any product, they wish to study the following aspects of the identified product:

- **Good Present/Future Demand**
- **Export-Import Market Potential**
- **Raw Material & Manpower Availability**
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Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation



Contact us

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