

Production of Alcohol from Grains.

Grain Alcohol Distillery Project.

**Food-Grain Based Alcohol
Industry.**

Distilled Spirit - Alcoholic Beverage

Introduction

Grain based alcohol is used for the production of white spirit such as gin and vodka but also as a base for a wide range of flavoured alcoholic beverages. The production of neutral alcohol from malt, grape, apple or sugar has considerably increased over the last few years. There may be local alcohol taxation advantages. This is available in a ready-to-pitch, active form, with proven cost effectiveness versus propagation.

Extra-Neutral Alcohol (ENA) is an ethanol grade of 96% purity or higher. Its main use is as the base ingredient in the production of alcoholic spirits.

The Extra Neutral alcohol or ENA is a high distilled alcohol without any impurities and others destined to be used in the high cosmetic industry, perfumeries as well as for the production of alcoholic beverages such as whisky, vodka, gin, cane, liqueurs and alcoholic fruit beverages and aperitifs.

Till now, molasses is used as raw material for alcohol production. Molasses, a by-product from cane sugar processing, is brownish black in colour with an extremely strong odour. It is used for its sugar content, either as an ingredient in cattle feed or for production of alcohol.

Some of the derivatives from alcohol that have been in commercial production are based on molasses as a raw material. Molasses based distilleries produce effluent, which has high BOD/COD as well as dark brown colour and is very difficult to treat. Molasses production in the country is around 70 to 75 Lakh MT per annum. Some of the molasses is consumed to manufacture animal feed. If all of the molasses produced in the country were used for alcohol production, it would produce maximum 1,750 million liters of alcohol. The demand for alcohol in the country is expected to go up to almost 3000 to 3500 million liters by year 2012. Under such circumstances, raw materials other than molasses will have to be used for alcohol production.

Though alcohol can be produced directly from sugar cane juice it is not an economic proposal because of its minimum statutory price. On an average, in Maharashtra, the landing price of sugarcane to the sugar factories varies from Rs. 2,000 to 4,000 / MT depending up on availability. In addition, it is a seasonal crop available for about 160 days in a year. Sugar cane cultivation also requires good irrigation facilities. If sugar cane juice is used directly for alcohol production, there will be no by-products produced except Bagasse.

There are some distinct advantages of using corn or sorghum for alcohol production. It produces a by-product called 'Distillers Dry Grain with Soluble's (DDGS)' which can be sold as high protein containing animal feed.

Quality of alcohol produced from grains is far better than that produced from molasses and thus fetches higher price. CO₂ produced during grain alcoholic fermentation after proper processing is of food grade quality. Maize or sorghum or bajara crop cultivation period is about four months and requires comparatively very less irrigation water

The process water requirement in case of a grain-based distillery is quite less than its molasses based counterpart, which ultimately saves cost component towards water charges.

Market Outlook

The Indian Made Foreign Liquor (IMFL) segment was estimated to reach a market valuation in excess of INR 1,400 Bn by 2016 end. This reflected a Y-o-Y growth rate of close to 5% over 2015. This segment is estimated to be valued at more than INR 3,000 Bn by 2026, expanding at a CAGR of 5.2% over the forecast period. Indian Made Foreign Liquor segment in the India alcohol market is expected to create absolute INR opportunity of close to INR 80 Bn in 2017 over 2016.

Rapid increase in urban population is one of the key factors that is boosting the India alcohol market.

Indian Alcohol Market Value, By Type, 2016 (INR Bn)

1,574.8
(INR Bn)

2016 – 2026 at a CAGR of
7.4%



IMFL



Beer



Country Liquor



Wine

GDP per capita income of the country for the year 2014 was pegged at more than US\$ 1,595. The increase in per capita disposable income is expected to result in higher consumer spending on different lifestyle products and food and beverages, including alcohol. This increase is expected to drive the growth of the alcohol market in the country.

India is the biggest manufacturer of Alcoholic Beverages in the world. Alcoholic Beverages market is matured in India over the years but still it is highly confined to limited varieties. There are around 10 million retail outlets and around 500,000 bars and pubs in the country. In past 5 years Alcoholic Beverages market witnessed a growth of 18.22% from 2010 to 2017.

Beer is a rapidly expanding segment in the Indian alcoholic beverages industry. It is the third largest market and second fastest growing market in the Indian alcoholic beverages industry. Beer market has been segmented into strong beer and mild beer on the basis of their alcohol content. Strong beer which has alcohol content more than 5%, dominates the Indian market stating its popularity and preference.

ENA market in India reached a volume of more than 3 Billion Litre in 2016, exhibiting a CAGR of around 6% during 2010-2016.

A colourless food grade alcohol, ENA contains 96% alcohol by volume (ABV). It has a neutral smell and taste, and is derived from various sources such as sugar cane molasses, grains, denatured spirit, etc.

ENA is a high distilled alcohol that contains no impurities and is used for the production of alcoholic beverages, alcoholic fruit beverages and aperitifs. Owing to its properties, it serves as an essential ingredient in the manufacturing of numerous cosmetics and skin care products, as a processing aid in food industry, and as a solvent for colourants and flavours.

Almost 90% of the ENA produced in India is used in the manufacturing of potable alcohol, production and consumption of which is continuously rising.

Alcoholic Drinks Whisky (Branded)

Demand: Past and Future

Year	(In Million cases)
1990-91	23.75
2000-01	42.00
2001-02	44.70
2002-03	47.65
2003-04	50.90
2004-05	54.45
2005-06	58.50
2006-07	63.30
2007-08	69.60
2008-09	77.50
2009-10	87.60
2010-11	100.75
2011-12	114.25
2012-13	125.45
2013-14	137.76
2014-15	151.28
2015-16	165.65
2016-17	181.39
2017-18	198.62
2018-19	217.49
2019-20	238.15
2024-25	380.07

Vodka is the fastest growing IMFL segment in India. Its growth is rapidly increasing due to increase in pubs, hotels, restaurants, evolving nightlife and consumer preferences. It has grown over the past 4 years at a CAGR of 19.3%.

The rising number of teens entering in the legal drinking age every year along with surging disposable income has resulted in financial independence and increased spending on food and beverages.

Beer

Demand: Past and Future

Year	(In '000 Kilolitre)
1990-91	201
2000-01	528
2001-02	565
2002-03	632
2003-04	676
2004-05	723
2005-06	780
2006-07	1150
2007-08	1300
2008-09	1500
2009-10	1688
2010-11	1851
2011-12	1950
2012-13	1990
2013-14	2048
2014-15	2150
2015-16	2268
2016-17	2393
2017-18	2527
2018-19	2665
2019-20	2812
2024-25	3760

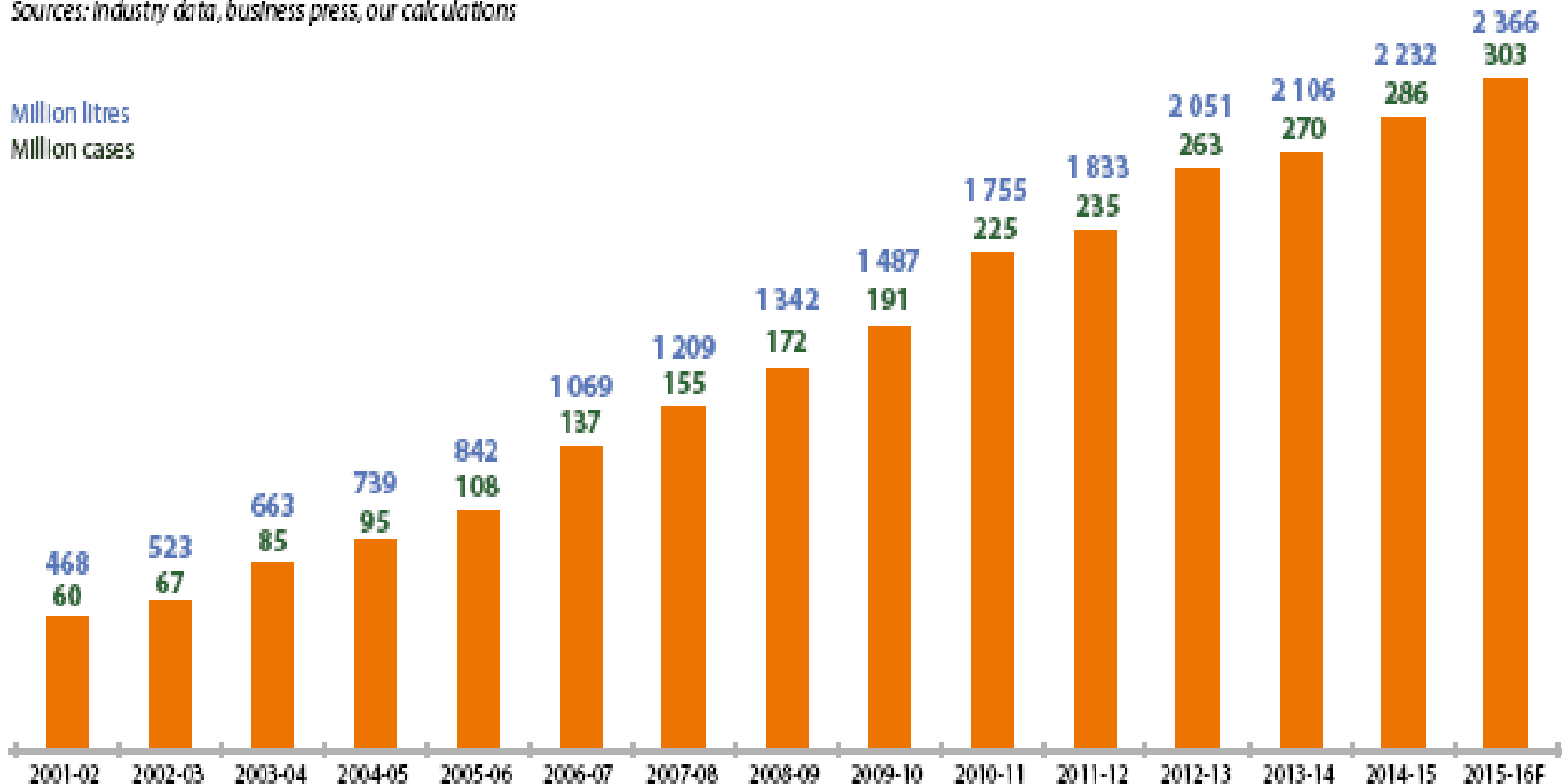
India Beer Market Volume

India beer market volume, mln. liters / mln. cases

Sources: industry data, business press, our calculations

Million litres

Million cases



Beer is a rapidly expanding segment in the Indian alcoholic beverages industry. It is the third largest market and second fastest growing market in the Indian alcoholic beverages industry. Beer market has been segmented into strong beer and mild beer on the basis of their alcohol content. Strong beer which has alcohol content more than 5%, dominates the Indian market stating its popularity and preference.

In 2016, consumption of beer in India was 4.6 litres per capita as against 57 litres per capita of fast-growing economies in Asia.

Global beer market is expected to garner \$688.4 billion by 2020, registering a CAGR of 6% during the forecast period 2015-2020.

India's wine market was growing with a CAGR of 16.29% over a period of four years.

The demand of both the domestic and foreign wines has been growing day by day. There is enough room for each and every wine brand, be it Indian or foreign, in the Indian market as the market has registered a significant percentage of growth in both volume and value terms in recent years.

Consumption of red wine is expected to grow from accounting for 61% of total wine consumption in India to 71.6% in 2017.

India ranks 77th in terms of world wine consumption. The per capita consumption in India is only 20 ml per year. India consumed 0.8% of total wine consumed in Asia.

India exported almost 20 lakh liters or 10% of total production in 2015. India's wine export was calculated to be around Rs. 80 crore and is expected to increase to Rs. 500 crore in next five years.

Machinery Photographs



Grain Based Receiving & Bulk Storage



Grain Handling and Milling



Liquefaction Section



Fermentation Section



Alcohol Storage and Receiver Section



Standalone Evaporation



Multipurpose Vacuum Distillation



Condensate Polishing Unit



D.D.G.S. Dryer Section



Air Compressors



Steam Boiler



Cooling Tower



Turbine

Grain Based Distillery Plants



Few Indian Major Players are as under

- **Amar Alcoholic Ltd.**
- **Dhampur Sugar Distillery Pvt. Ltd.**
- **Mcdowell & Co. Ltd.**
- **Mohan Breweries & Distilleries Ltd.**
- **Pioneer Industries Ltd.**
- **S N J Sugars & Products Ltd.**
- **United Spirits Ltd.**
- **Vindhyachal Distilleries Pvt. Ltd.**

Project at a Glance

PROJECT AT A GLANCE				(` in lacs)			
COST OF PROJECT				MEANS OF FINANCE			
Particulars	Existing	Proposed	Total	Particulars	Existing	Proposed	Total
Land & Site Development Exp.	0.00	390.00	390.00	Capital	0.00	1643.12	1643.12
Buildings	0.00	622.50	622.50	Share Premium	0.00	0.00	0.00
Plant & Machineries	0.00	4637.00	4637.00	Other Type Share			
Motor Vehicles	0.00	20.00	20.00	Capital	0.00	0.00	0.00
Office Automation Equipments	0.00	180.50	180.50	Reserves & Surplus	0.00	0.00	0.00
Technical Knowhow Fees & Exp.	0.00	75.00	75.00	Cash Subsidy	0.00	0.00	0.00
Franchise & Other Deposits	0.00	0.00	0.00	Internal Cash Accruals	0.00	0.00	0.00
Preliminary & Pre-operative Exp	0.00	7.50	7.50	Long/Medium Term Borrowings	0.00	4929.35	4929.35
Provision for Contingencies	0.00	460.00	460.00	Debentures / Bonds	0.00	0.00	0.00
Margin Money - Working Capital	0.00	179.96	179.96	Unsecured Loans/Deposits	0.00	0.00	0.00
TOTAL	0.00	6572.46	6572.46	TOTAL	0.00	6572.46	6572.46



Project at a Glance

Year	Annualised		Book Value	Debt	Dividend	Retained Earnings		Payout	Probable Market Price	P/E Ratio	Yield Price/Book Value
	EPS	CEPS	Per Share		Per Share	%		%		No.of Times	%
1-2	6.04	11.21	16.04	24.00	0.00	100.00	6.04	0.00	6.04	1.00	0.00
2-3	7.22	11.66	23.26	18.00	0.00	100.00	7.22	0.00	7.22	1.00	0.00
3-4	8.48	12.28	31.74	12.00	0.00	100.00	8.48	0.00	8.48	1.00	0.00
4-5	9.77	13.02	41.51	6.00	0.00	100.00	9.77	0.00	9.77	1.00	0.00
5-6	11.07	13.86	52.58	0.00	0.00	100.00	11.07	0.00	11.07	1.00	0.00



Project at a Glance

Year	D. S. C. R.			Debt / - Depos its Debt	Equity as- Equity	Total Net Wort h	Retur n on Net Worth	Profitability Ratio					Assets Turnov er Ratio	Curre nt Ratio
	Individ ual	Cumulat ive	Overa ll					GPM	PBT	PAT	Net Contri bution	P/V Ratio		
	(Number of times)			(Number of times)		%	%	%	%	%	%			
Initial				3.00	3.00									
1-2	1.56	1.56		1.50	1.50	1.79		23.07 %	14.95%	11.62 %	4443. 79	52.05 %	1.17	1.03
2-3	1.66	1.61		0.77	0.77	0.99		25.22 %	18.76%	13.09 %	4720. 80	52.04 %	1.20	1.54
3-4	1.80	1.66	1.81	0.38	0.38	0.55		26.92 %	21.96%	14.51 %	4998. 49	52.04 %	1.20	2.08
4-5	1.98	1.73		0.14	0.14	0.28		28.26 %	24.65%	15.83 %	5276. 18	52.04 %	1.17	2.66
5-6	2.22	1.81		0.00	0.00	0.11		29.32 %	26.92%	17.04 %	5553. 87	52.04 %	1.11	6.59



Project at a Glance

BEP

BEP - Maximum Utilisation Year	5
Cash BEP (% of Installed Capacity)	40.02%
Total BEP (% of Installed Capacity)	48.28%
IRR, PAYBACK and FACR	
Internal Rate of Return .. (In %age)	23.63%
Payback Period of the Project is (In Years)	2 Years 3 Months
Fixed Assets Coverage Ratio (No. of times)	3.152



Major Queries/Questions Answered in the Report?

- 1. What is Grain Based Alcohol Manufacturing industry ?**
- 2. How has the Grain Based Alcohol Manufacturing industry performed so far and how will it perform in the coming years ?**
- 3. What is the Project Feasibility of Grain Based Alcohol Manufacturing Plant ?**
- 4. What are the requirements of Working Capital for setting up Grain Based Alcohol Manufacturing plant ?**

- 5. What is the structure of the Grain Based Alcohol Manufacturing Business and who are the key/major players ?**
- 6. What is the total project cost for setting up Grain Based Alcohol Manufacturing plant ?**
- 7. What are the operating costs for setting up Grain Based Alcohol Manufacturing plant ?**
- 8. What are the machinery and equipment requirements for setting up Grain Based Alcohol Manufacturing plant ?**

9. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up Grain Based Alcohol Manufacturing plant ?

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Reasons for Buying our Report:

- **This 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**
- **This report provides vital information on the product like it's characteristics and segmentation**
- **This report helps you market and place the product correctly by identifying the target customer group of the product**

- **This 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**

Scope of the Report

The report titled “Market Survey cum Detailed Techno Economic Feasibility Report on Grain Based Alcohol Distillery ” provides an insight into the Grain Based Alcohol Distillery market in India with focus on uses and applications, Manufacturing Process, Process Flow Sheets, Plant Layout and Project Financials of Grain Based Alcohol Distillery project. The report assesses the market sizing and growth of the Indian Grain Based Alcohol Distillery Industry. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line. 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**
- **Project Costs and Payback Period**

We at NPCCS, through our reliable expertise in the project consultancy and market research field, have demystified the situation by putting forward the emerging business opportunity in the Grain Based Alcohol Distillery sector in India along with its business prospects. Through this report we have identified Grain Based Alcohol Distillery project as a lucrative investment avenue.

Tags

Grain Based Alcohol Distillery, Production of Ethanol from Grain, Production of Industrial Alcohol from Grain, Alcohol Fuel Production from Grain, Production of Ethanol, Production of Grain Whisky and Ethanol, Distilled Spirit, Alcoholic Beverage, How to Distill Ethanol or Grain Alcohol, Grain Alcohol, Grain Alcohol Industry, Food-Grain Based Alcohol, Grain Based Alcohol, Process of Manufacturing Alcohol from Grain, Ethanol Plant, Producing Alcohol from Grain, How is Alcohol Made?, Distillation of Alcohol, Ethanol Production Process, Ethyl Alcohol, Alcohol from Grain, Production of Ethyl Alcohol, Project Report on Grain Based Alcohol, Grain Based Distillation Plant, Project Report of Grain Based Alcohol-Distillery, Distilled Beverage, Production of Food-Grain Based Alcohol, Production of Alcohol, Grain Fermentation for Alcohol Production, Grain Alcohol, Grain Based Alcohol Production, Beverage Alcohol, Distillers Grain Industry, Ethanol Fermentation, Production of Alcoholic Beverages, Making of Grain Based Spirits, Grain Alcohol Distillation, How Alcohol Is Distilled?, Alcohol Production from Grain, Manufacture of Alcohols, Project Report on Extra Neutral Alcohol, Manufacture of Extra Neutral Alcohol, Project Report on Production of ENA, Extra Neutral Alcohol Manufacture, Extra Neutral Alcohol Production, Manufacturing of Extra Neutral Alcohol (ENA), Grain Based Alcohol Production project ideas, Projects on Small Scale Industries, Small scale industries projects ideas, Grain Based Alcohol Production Based Small Scale Industries Projects, Project profile on small scale industries, How to Start Grain Based Alcohol Production Industry in India,

Grain Based Alcohol Production Projects, New project profile on Grain Based Alcohol Production industries, Project Report on Grain Based Alcohol Production Industry, Detailed Project Report on Distillation of Alcohol, Project Report on Ethanol Production, Pre-Investment Feasibility Study on Grain Based Alcohol Production, Techno-Economic feasibility study on Ethanol Production, Feasibility report on Distillation of Alcohol, Free Project Profile on Grain Based Alcohol Production, Project profile on Distillation of Alcohol, Download free project profile on Distillation of Alcohol, Industrial Project Report, Project consultant, Project consultancy, NPCS, Niir, Process technology books, Business consultancy, Business consultant, Project identification and selection, Preparation of Project Profiles, Startup, Business guidance, Business guidance to clients, Startup Project for Grain Based Alcohol Production, Startup Project, Startup ideas, Project for startups, Startup project plan, Business start-up, Business Plan for a Startup Business, Great Opportunity for Startup, Small Start-up Business Project, Project report for bank loan, Project report for bank finance, Project report format for bank loan in excel, Excel Format of Project Report and CMA Data, Project Report Bank Loan Excel, Detailed Project Plan Report

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Contact us

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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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