

# Entrepreneur India



R.N.I. NO. 61509/95

AN ISO 9001-2015 CERTIFIED COMPANY

[www.entrepreneurindia.co](http://www.entrepreneurindia.co)

₹ 20/-

An Industrial Monthly Journal on  
INDUSTRIAL DEVELOPMENT, TECHNOLOGIES & PROJECT OPPORTUNITIES

Vol. 32

No. 02

February 2026

16 Pages

## About Us

NPCS is a well-known technical consultancy that focuses on Project Reports Compilation, and we have been following a tight system and procedure to assure only top quality in accordance with our clients' expectations in this rapidly increasing and changing market. We've created the list of the top projects to start your own business startups.

### EDITOR :

**AJAY KUMAR GUPTA**  
D.M.S, M.B.A.

Entrepreneurship Management

### ASSOCIATE EDITOR :

**UDANT GUPTA**

### NIIR PROJECT CONSULTANCY SERVICES

AN ISO 9001:2015 CERTIFIED COMPANY

106 E, Kamla Nagar,  
Delhi-110 007 (India).

Tel. : 91-11-23843955  
Mob.: +91-9097075054  
+91-8800733955

### E-mail :

[info@niir.org](mailto:info@niir.org)  
[npcs.india@gmail.com](mailto:npcs.india@gmail.com)

### Website :

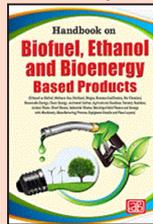
[www.niir.org](http://www.niir.org)  
[www.entrepreneurindia.co](http://www.entrepreneurindia.co)

## Handbook on

## Biofuel, Ethanol and Bioenergy Based Products

(Ethanol As Biofuel, Methane Gas, Biodiesel, Biogas, Biomass Gasification, Bio-Chemical, Renewable Energy, Clean-Energy, Activated Carbon, Agricultural Residues, Forestry Residues, Animal Waste, Wood Wastes, Industrial Wastes, Municipal Solid Wastes And Sewage With Machinery, Manufacturing Process, Equipment Details And Plant Layout)

₹ 1875/-



**B**ioenergy is biofuel-derived energy. Biofuel is any fuel made from biomass, such as plant or algal matter or animal waste. Biofuel is considered a renewable energy source since the feedstock material can be easily renewed, unlike fossil fuels such as petroleum, coal, and natural gas.

Ethanol is a naturally occurring result of plant fermentation that may also be made by hydrating ethylene. Ethanol is a widely used industrial chemical that is employed as a solvent, in the production of other organic compounds, and as a fuel additive (forming a mixture known as a gasohol). Many alcoholic beverages, such as beer, wine, and distilled spirits, include ethanol as a psychoactive element.

Transportation fuels generated from biomass resources, such as ethanol and biomass-based diesel, are known as biofuels. Using ethanol or biodiesel reduces the use of crude oil-based gasoline and diesel, potentially lowering the amount of crude oil imported from other nations. The global biofuels market is expected to reach growth at 7.3% CAGR. Increasing demand for biofuels as automobile fuel owing to their environment friendly characteristic to mitigate greenhouse gas emission is expected to propel industry growth.

The global ethanol fuel market is expected to reach growing at a CAGR of 6.7%. The demand for the product is driven by growing usage of the product as a biofuel. The bioenergy market is expected to register a CAGR of over 6% during the forecast period. Bioenergy is one of the renewable energy sources globally. Increasing demand for energy, advancements in bioenergy conversion technologies, and increasing investment in bioenergy, and declining electricity generation costs from bioenergy facilities are expected to drive the market during the forecast period.

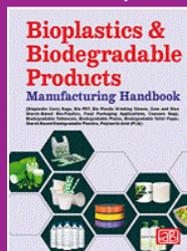
The book covers a wide range of topics connected to Biofuel, Ethanol and Bioenergy Based Products, as well as their manufacturing processes. It also includes contact information for machinery suppliers, as well as images of equipment and plant layout.

A complete guide on Biofuel, Ethanol and Bioenergy Based Products manufacture and entrepreneurship. This book serves as a one-stop shop for everything you need to know about the Biofuel, Ethanol and Bioenergy Based Products manufacturing industry, which is ripe with opportunity for manufacturers, merchants, and entrepreneurs. This is the only book that covers commercial Biofuel, Ethanol and Bioenergy Based Products in depth. From concept through equipment procurement, it is a veritable feast of how-to information.

## Bioplastics & Biodegradable Products Manufacturing Handbook

(Bioplastic Carry Bags, Bio-PET, Bio Plastic Drinking Straws, Corn and Rice Starch-Based Bio-Plastics, Food Packaging Applications, Cassava Bags, Biodegradable Tableware, Biodegradable Plates, Biodegradable Toilet Paper, Starch Based Biodegradable Plastics, Polylactic Acid (PLA))

₹ 1875/-



**B**ioplastic is simply plastic that is created from a plant or other biological source rather than petroleum. It can be created by extracting sugar from plants like corn and sugarcane and converting it into polylactic acids (PLAs), or it can be made from microorganism-engineered polyhydroxyalkanoates (PHAs). Bioplastics are plastics made from renewable biomass sources such as vegetable fats and oils, corn starch, straw, woodchips, sawdust, and recovered food waste, among others. Common plastics, such as fossil-fuel plastics (also known as petro-based polymers), on the other hand, are made from petroleum or natural gas.

Biodegradable Products Manufacturing (Bio-Products) are all types of natural and artificial products that can be easily decomposed without causing any damage to the environment. The significant examples of Biodegradable Products are Biodegradable Plastic, Biodegradable Airline Meals, Bio-degradable Toilet Paper, Biodegradable Cups etc. It has become the need of the hour to use these products as most of the goods like Plastics take many years to decompose in nature and this affects the environment adversely with time.

The worldwide bioplastics market is predicted to increase at a CAGR of 17.1 percent over the next five years. The packaging industry's rising product demand will propel the market even higher.

The book covers a wide range of topics connected to bioplastics and biodegradable products, as well as their manufacturing processes. It also includes contact information for machinery suppliers, as well as images of equipment and plant layout.

A comprehensive reference to manufacturing and entrepreneurship in the bioplastics and biodegradable products business. This book is a one-stop shop for everything you need to know about the bioplastics and biodegradable products manufacturing industry, which is ripe with potential for manufacturers, merchants, and entrepreneurs. This is the only comprehensive guide to commercial bioplastics and biodegradable products manufacture. It provides a feast of how-to knowledge, from concept through equipment purchase.

In today's fast-moving food processing ecosystem, the demand for natural, shelf-stable, and convenient flavoring ingredients has significantly increased. One such product gaining remarkable traction across domestic and global markets is Dry Lemon Powder—a dehydrated citrus derivative widely used in food processing, nutraceuticals, beverages, seasoning blends, ready-to-eat products, pharmaceuticals, and cosmetic formulations.

For startups and first-generation entrepreneurs working with Niir Project Consultancy Services (NPCS) on value-added agro-processing projects, Dry Lemon Powder manufacturing stands out as a scalable, low-risk, and export-oriented business model that converts seasonal citrus produce into a high-margin, long-shelf-life ingredient.

**Market Size, Trends & Industry Overview**

Globally, the lemon powder market is witnessing steady growth due to rising demand for natural food additives and clean-label ingredients. The global lemon powder market was valued at approximately USD 1.05 billion in 2023 and is projected to reach USD 1.86 billion by 2031, growing at a CAGR of over 8%.

**Dry Lemon Powder – A Profitable Agro-Based Manufacturing Opportunity for New-Age Entrepreneurs**

Additionally, the broader dried lemon market was valued at around USD 1.12 billion in 2023 and is expected to grow to USD 1.95 billion by 2033, driven by increasing applications in beverages, spice mixes, bakery products, and processed foods.

India's citrus powder market is also expanding rapidly and is expected to grow from USD 0.32 billion in 2024 to USD 0.69 billion by 2033, indicating strong domestic consumption and industrial usage across multiple sectors.

The shift toward replacing liquid lemon juice with powdered alternatives in processed foods is another emerging trend, helping manufacturers

reduce logistics costs and improve shelf stability in formulations.

**Why Startups Should Invest in Dry Lemon Powder Manufacturing**

Entrepreneurs looking for investment-friendly MSME projects should consider this industry due to:

- Abundant availability of raw lemons across India
- Year-round demand from FMCG, food processing & pharmaceutical sectors
- Longer shelf life compared to fresh lemon juice
- High value addition from agro-produce
- Export demand from the USA, EU & Middle East markets
- Low initial investment with scalable production capacity

India exported more than 10.99 million kilograms of fresh or dried lemons in 2023, with nearly 19% growth in shipments, clearly reflecting strong international demand for processed citrus products. Global dried lemon exports also recorded a 68% year-on-year increase in shipments between 2024–25, highlighting strong trade expansion in citrus-based ingredients.

**PROJECT COST ESTIMATE**

**CAPACITY**

<b>Project Capacity</b>	: 5 MT Per Day
<b>Plant &amp; Machinery</b>	: ₹ 73 Lakhs
<b>Cost of Project</b>	: ₹ 357 Lakhs
<b>Rate of Return</b>	: 29%
<b>Break Even Point</b>	: 51%

Aluminium alloy ingots are among the most widely used intermediate raw materials in modern manufacturing. These ingots are produced by melting primary aluminium or recycled aluminium scrap and adding specific alloying elements such as silicon, magnesium, copper, or zinc to enhance mechanical strength, corrosion resistance, and casting performance.

They are extensively used in:

- Automotive components (engine blocks, transmission housings)
- Aerospace parts
- Construction hardware
- Electrical equipment
- Packaging materials
- Solar panel frames
- Consumer durables and electronics

With the growing shift toward lightweight engineering materials across automotive, EV, renewable energy, and infrastructure sectors, aluminium alloy ingots are witnessing consistent global demand.

**Market Size, Trends & Growth Outlook**

The global aluminium ingots market has already crossed USD 268 billion in 2026 and is projected to reach USD 329 billion by 2031, growing at a CAGR of around 4.2%.

**Aluminium Alloy Ingots: A High-Growth Manufacturing Opportunity for Startups**

Meanwhile, the global aluminium alloy ingot segment alone accounts for nearly 110 million tonnes of annual demand, with the automotive sector consuming almost 28% of total production.

India's aluminium consumption is also on a rapid rise—from 4.5 million tonnes in 2024 to an estimated 8.3 million tonnes by 2030, backed by infrastructure expansion, EV manufacturing, power transmission, and construction growth.

The Indian aluminium cast alloy market is projected to grow from USD 2.15 billion in 2025 to USD 3.82 billion by 2032,

reflecting a CAGR of 8.5%.

Such strong growth is driven by:

- Increasing automotive production
- EV adoption
- Solar PV installations
- Smart Cities Mission
- Expansion in railways and metro infrastructure
- Growth of aluminium packaging industry

This makes aluminium alloy ingot production an extremely investment-friendly MSME manufacturing opportunity.

**Export Potential & Demand Dynamics**

India is emerging as a significant global player in aluminium recycling, importing aluminium scrap worth over USD 3.68 billion annually to meet growing domestic industrial demand.

Secondary aluminium alloy ingots such as ADC12 are already being exported from India to countries like Japan at price levels of \$2,400–\$2,420 per tonne, primarily driven by automotive casting demand.

As global OEMs aim to reduce carbon emissions, recycled aluminium alloy is gaining preference because secondary aluminium production consumes only about 5% of the energy required for primary smelting, making it environmentally sustainable and cost-effective.

**PROJECT COST ESTIMATE**

**CAPACITY**

<b>Aluminium Alloy Ingots</b>	: 20 MT Per Day
<b>Aluminium Dross</b>	: 0.3 MT Per Day
<b>Plant &amp; Machinery</b>	: ₹ 150 Lakhs
<b>Cost of Project</b>	: ₹ 881 Lakhs
<b>Rate of Return</b>	: 32%
<b>Break Even Point</b>	: 59%

In today's rapidly expanding food processing and bio-based ingredients industry, potato starch has emerged as one of the most promising manufacturing opportunities for startups and new-age entrepreneurs. With India being the second-largest potato producer in the world contributing nearly 12% of global production, the country offers abundant raw material availability, making potato starch manufacturing a highly viable agro-processing venture for MSMEs and first-generation entrepreneurs.

For consultancy-driven organizations like NPCS that regularly prepare feasibility reports for food processing industries such as potato powder, starch derivatives, and modified starch, this project fits perfectly into the low-risk, high-demand category of startup-ready manufacturing businesses.

**Market Overview and Growth Potential**

The global potato starch market is witnessing steady expansion due to increasing demand from food, textile, paper, pharmaceutical, and biodegradable packaging industries. The market was valued at approximately USD 3.49 billion in 2023 and is projected to reach USD 4.79 billion by 2030, growing at a CAGR of around 4.7%.

Further industry estimates suggest that the market is expected to reach nearly USD 5.68 billion by 2030, driven by its superior binding, gelling, and thickening characteristics in processed foods and industrial applications.

In India, the starch and starch derivative market itself is valued at nearly USD 3.7 billion in 2026 and projected to reach USD 5.25 billion by 2031, supported by rising demand from convenience foods, paper coatings, adhesives, and pharmaceutical industries.

Interestingly, India's export value of potato starch has increased by over 890% between 2019 and 2023, indicating a strong export potential for domestic manufacturers looking to tap into international ingredient markets.

- Import substitution opportunity in specialty starch products
- Increasing demand for biodegradable packaging materials

As startups move toward clean-label and natural food ingredients, potato starch is gaining popularity due to its neutral taste, high viscosity, and excellent film-forming properties across industrial sectors.

**Key Market Players**

**Indian Companies:**

- Gulshan Polyols Limited
- Riddhi Siddhi Gluco Biols Ltd.
- Agrana India Pvt. Ltd.
- Amylon Products Pvt. Ltd.
- Siddharth Starch

**Global Companies:**

- Roquette Group
- Ingredion Incorporated
- Emsland Group
- Avebe U.A
- Tate & Lyle PLC

These companies are actively investing in modified starches and functional food ingredients, indicating strong long-term demand.

**Potato Starch:  
A Profitable Agro-Processing  
Opportunity for Startups  
and MSMEs**

**Why Entrepreneurs Should Invest in Potato Starch Manufacturing**

From an investment perspective, potato starch production offers several strategic advantages:

- Availability of raw material throughout the year in states like Uttar Pradesh, Punjab, and West Bengal
- Rising demand for gluten-free and plant-based food ingredients globally
- Expanding usage in paper, textile sizing, adhesives, pharmaceuticals, and cosmetics

PROJECT COST ESTIMATE	
CAPACITY	
Project Capacity	: 20 MT Per Day
Plant & Machinery	: ₹ 531 Lakhs
Cost of Project	: ₹ 1240 Lakhs
Rate of Return	: 28%
Break Even Point	: 57%

**A**nimal feed from bagasse refers to the practice of utilizing bagasse, the fibrous residue left after the juice is extracted from sugarcane, as a feed source for livestock. Bagasse is a by-product of the sugarcane industry, and it is abundant and readily available, making it a cost-effective and sustainable option for animal feed. The use of bagasse as animal feed is becoming increasingly popular, as it provides a viable alternative to traditional feed sources like hay and corn, which can be expensive and require significant amounts of land and resources to produce.

**Benefits of Using Bagasse As Animal Feed**

**Boosts Animal Health:** Supplying pets with a balanced and nutritious diet is crucial for their health and wellness. Making use of bagasse as pet feed can aid to improve the general wellness and productivity of livestock, poultry, and also various other animals.

**Nutritious:** Bagasse is an excellent source of fiber, which is an essential nutrient

**Start Manufacturing Business of  
Animal Feed  
from Bagasse**

for many pets. Additionally, bagasse includes a series of other nutrients, including healthy protein, calcium, as well as potassium, making it an useful enhancement to a pet's diet regimen.

**Sustainable:** Making use of bagasse as pet feed is a lasting method that assists to minimize waste and improve the environmental impact of the sugar walking

PROJECT COST ESTIMATE	
CAPACITY	
Animal Feed	: 100 MT Per Day
Plant & Machinery	: ₹ 125 Lakhs
Cost of Project	: ₹ 1320 Lakhs
Rate of Return	: 27 %
Break Even Point	: 53 %

cane sector. This makes it an attractive choice for farmers as well as other stakeholders in the agriculture industry who are

dedicated to sustainability.  
**Indian Market Outlook**

The Indian animal feed market is predicted to get to USD 33.15 billion by 2025, growing at a CAGR of 7.6% from 2020 to 2025. Bagasse-based animal feed is expected to play a considerable role in this development.

The bagasse market in India is booming, with an expanding variety of sugar mills recognizing the possible to transform their waste into useful animal feed.

**Final Thought**

Animal feed producers are progressively wanting to bagasse as a vital component in their formulas, as it is a rich resource of fiber, protein, and various other nutrients. Furthermore, bagasse-based animal feed is sustainable, environmentally friendly, as well as affordable, making it an eye-catching option for farmers. While the use of bagasse as pet feed is still reasonably new, the market is expected to grow rapidly in the coming years.

**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

**NIIR PROJECT CONSULTANCY SERVICES**

AN ISO 9001:2015 CERTIFIED COMPANY

106 E, Kamla Nagar, Delhi-110 007 (India). Tel. : 91-11- 23843955

Mob.: +91-9097075054 • 8800733955

Website : www.niir.org • www.entrepreneurindia.co • E-mail : info@niir.org • npc.s.india@gmail.com

# Monocrystalline Solar Cell Manufacturing: A Future-Ready Opportunity for Clean Energy Startups

In today's rapidly evolving renewable energy ecosystem, Monocrystalline Solar Cell manufacturing is emerging as one of the most investment-worthy industrial ventures for startups and MSME entrepreneurs. As India moves aggressively toward achieving its ambitious renewable energy target of 500 GW by 2030, the demand for high-efficiency photovoltaic technologies is expanding at an unprecedented pace. Monocrystalline solar cells, known for their superior conversion efficiency and long service life, currently dominate the crystalline solar cell segment in India.

From a business perspective, this segment offers not just domestic demand security but also strong export potential, especially as global markets shift toward advanced technologies such as PERC, TOPCon, and HJT-based monocrystalline modules. The global monocrystalline solar cell market was valued at around USD 29.53 billion in 2024 and is projected to reach nearly USD 73.12 billion by 2033, registering robust growth driven by industrial electrification, rooftop solar adoption, and decarbonization initiatives worldwide.

### Why Startups Should Enter This Manufacturing Segment

For entrepreneurs working closely with industrial consultancy organizations like NPCS, this sector represents a strategic manufacturing entry point aligned with government incentives such as the Production Linked Incentive (PLI) scheme for

high-efficiency solar PV modules. India currently has limited commercial production capacity for silicon ingots and wafers—critical raw materials required for solar cell manufacturing—which creates a substantial opportunity for domestic manufacturing startups to bridge the supply gap and reduce import dependency.

Additionally, rising electricity consumption, favorable solar irradiation conditions, and rapid installation of grid-connected rooftop systems across commercial and residential sectors are significantly increasing demand for monocrystalline solar cells. The Indian solar cells market itself is expected to grow from USD 12.47 billion in 2026 to approximately USD 39.43 billion by 2035, expanding at a CAGR of over 13%.

This makes the sector highly suitable for technology-driven startups looking to invest in advanced manufacturing with long-term revenue visibility and export competitiveness.

### Market Players in the Industry

Key Indian manufacturers include:

- Tata Power Solar
- Adani Solar
- Premier Energies
- Jupiter Solar

Prominent overseas players operating in the global monocrystalline solar cell market include:

- LONGi Green Energy

- JinkoSolar
- Trina Solar
- JA Solar
- Canadian Solar
- Hanwha Q Cells

### Export Potential and Industry Outlook

With global decarbonization commitments intensifying, countries in Europe, the Middle East, and Southeast Asia are increasingly importing high-efficiency solar cells and modules. As new solar manufacturing hubs are being established across India under various incentive schemes, startups entering the monocrystalline solar cell production segment today can gain a competitive edge in the rapidly expanding clean-energy export ecosystem.

For industrial entrepreneurs associated with project consultancy firms such as NPCS, this manufacturing opportunity not only aligns with future-ready green technologies but also promises scalability, policy support, and strong global demand in the coming decade.

PROJECT COST ESTIMATE	
CAPACITY	
Monocrystalline Solar Cell	: 4 Mw Per Day
Plant & Machinery	: ₹ 13,570 Lakhs
Cost of Project	: ₹ 20,737 Lakhs
Rate of Return	: 28%
Break Even Point	: 47%

## Set Up Ready to Eat Food (Retort Packaging) Vegetable Pulao, Dal Makhani, Palak, Rajma, Potato Peas and Muutter Mushroom)

**R**TE food includes wide range of products viz. vegetarian/non-vegetarian, basic food/delectable desserts, south and north Indian items available from a specialty or multi cuisine restaurant & food joint only.

### Uses and Applications

There are many Uses and Applications for ready to eat food. For example: you could start a catering business, food delivery service, a meal prep service. Ready to eat food is a great way to add variety to your diet and get all the nutrients your body needs.

### Indian Market

The Indian food processing industry accounts for 32 percent of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth.

### Global Market

RTE food market is expected to grow at a 21.8-percent compound annual growth rate (CAGR) between 2018 and 2023. The demand for healthy and convenient ready-to-eat (RTE) food is on the rise.

PROJECT COST ESTIMATE	
CAPACITY :	
Vegetable Pulao	: 3,000 Kgs. Per Day
Dal Makhani	: 2,000 Kgs. Per Day
Palak	: 600 Kgs. Per Day
Rajma	: 700 Kgs. Per Day
Potato Peas	: 600 Kgs. Per Day
Matar Mushroom	: 250 Kgs. Per Day
Plant & Machinery	: ₹ 331 Lakhs
Cost of Project	: ₹ 718 Lakhs
Rate of Return	: 27%
Break Even Point	: 63%

Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :

**NIIR PROJECT CONSULTANCY SERVICES**

AN ISO 9001:2015 CERTIFIED COMPANY

106 E, Kamla Nagar, Delhi-110 007 (India). Tel. : 91-11- 23843955

Mob.: +91-9097075054 • 8800733955

Website : www.niir.org • www.entrepreneurindia.co • E-mail : info@niir.org • npc.s.india@gmail.com

In today's metal-intensive economy—where power infrastructure, EVs, renewable energy systems, telecom networks, and electronics manufacturing are expanding rapidly—copper has become one of the most strategic industrial metals. For entrepreneurs associated with industrial consultancy platforms like NPCS, secondary copper refining through scrap recycling offers a compelling manufacturing opportunity that combines sustainability with strong commercial returns.

Copper cathodes (99.99% pure copper sheets) serve as the primary raw material for producing wires, rods, tubes, strips, and electrical components. With rising copper demand and declining ore grades globally, recycling copper scrap into cathodes is gaining prominence as a cost-effective and environmentally responsible solution.

**Market Size, Demand & Industry Outlook**

The global copper cathode market was valued at approximately USD 28.37 billion in 2025 and is expected to reach nearly USD 50.52 billion by 2034, growing at a CAGR of over 6.6%.

In addition, the market is forecasted to expand by USD 9.82 billion between 2026 and 2030, driven primarily by increasing demand from construction, consumer electronics, automobiles, and power transmission sectors. Copper demand is also expected to grow steadily until 2035 due to its critical use in electric vehicles, green energy technologies, and digital infrastructure.

Recycling already contributes about one-third of global copper supply, and copper is one of the few metals that can be recycled repeatedly without any loss of quality. This makes scrap-based copper cathode manufacturing a future-ready investment model aligned with the global circular economy.

**Copper Cathode from Copper Scrap: A Profitable Circular Economy Opportunity for MSME Startups**

**Why Startups Should Invest in Scrap-Based Copper Cathode Manufacturing**

For first-generation entrepreneurs and MSMEs guided by feasibility studies from organizations such as NPCS, this sector offers multiple advantages:

- Lower capital investment compared to primary copper mining and smelting
- High availability of domestic copper scrap from electrical, automotive, and electronic waste
- Strong domestic demand from cable, transformer, motor, and appliance industries
- Attractive export potential to Southeast Asia, the Middle East, and Africa
- Support from India's growing focus on metal recycling and resource security

India is already the world's second-largest importer of refined copper, with domestic demand expected to double by 2030—creating a clear supply gap that secondary refining units can fill.

**Major Players in Copper Cathode Industry**

**Indian Companies:**

- Hindalco Industries Ltd.
- Vedanta Limited
- Hindustan Copper Ltd.

**Global Companies:**

- Aurubis AG (Germany)
- Codelco (Chile)
- Freeport-McMoRan Inc.
- Metallo Group (Belgium – scrap-based copper refining specialist)

**Export Potential & Future Trends**

Copper cathodes are actively traded across global markets such as China, Japan, South Korea, and the EU for downstream processing into electrical conductors and alloy products. Increasing adoption of renewable energy systems and electric mobility is expected to push copper consumption to nearly 50 million metric tons by 2050.

As governments worldwide tighten regulations on mining and promote recycling, scrap-based cathode manufacturing will gain stronger policy support, making it a high-potential venture for startup investors looking to enter the non-ferrous metal processing sector.

**PROJECT COST ESTIMATE**

**CAPACITY:**

- Copper Cathode** : 2100 MT Per Annum
- Copper Slag, Residue** : 135 MT Per Annum
- Plant & Machinery** : ₹ 649 Lakhs
- Cost of Project** : ₹ 1536 Lakhs
- Rate of Return** : 29%
- Break Even Point** : 57%

Semi Processed Canned Vegetables (Chickpeas & Red Kidney Beans) are vegetables that have been cooked and preserved in cans. They are partially processed, which means they are not fully cooked and require additional preparation before consumption. Chickpeas and Red Kidney Beans are two of the most commonly used semi processed canned vegetables in various cuisines worldwide. The process of canning involves heating the vegetables at high temperatures to kill off bacteria and microorganisms, ensuring a longer shelf life.

**Benefits of Using Semi Processed Canned Vegetables**

- **Nutritional Value:** Tinned veggies are picked at their optimal ripeness as well as are tinned promptly to secure their nutrients. They offer a convenient and healthy choice to fresh produce, particularly during off-seasons when fresh fruit and vegetables is scarce or as well pricey.
- **Longer Shelf Life:** Unlike fresh produce, tinned veggies have a longer service life. They can be stored for a number of months, which indicates you can stock up on them and constantly have

**Semi Processed Canned Vegetable (Chickpeas & Red Kidney Beans)**

them accessible.

- **Affordable:** Canned vegetables are normally more economical than fresh produce. They are additionally more cost-effective over time since they have a longer shelf life and can be used in a variety of recipes.

**Global Market Overview**

Canned Vegetables Market Size was valued at USD 21.78 Billion in 2021. The Canned vegetable market industry is projected to grow from USD 22.65 Billion in 2022 to USD 30.62 Billion by 2030, exhibiting a compound annual growth rate (CAGR) of 3.84% during the forecast period (2022–2030). The vegetables are one of the major consumable products among the consumers in their daily diet, as it is a rich source of nutrients such as mineral, protein, fibre, and vitamin. Similarly, the processed vegetable market is also rising and has

an immense potential to grow exponentially over the coming years.

**Final Thought**

The rise in popularity of veganism and plant-based diets has also contributed to the increase in demand for canned vegetables. Canned vegetables have a longer shelf life than fresh produce, making them a cost-effective solution for those on a budget. They can also be easily stored in bulk, which can save money and reduce waste. So, it's clear to see why the Semi-Processed Canned Vegetable business is booming. The convenience, health benefits, versatility, and cost-effectiveness of canned vegetables make them a great option for those looking for an easy meal solution.

**PROJECT COST ESTIMATE**

**CAPACITY :**

- Canned Chickpeas 1 Kg each** : 5,000 Th.Packs Per Annum
- Canned Red Kidney Beans 1 Kg each** : 5,000 Th.Packs Per Annum
- Plant & Machinery** : ₹ 271 Lakhs
- Cost of Project** : ₹ 1398 Lakhs
- Rate of Return** : 25 %
- Break Even Point** : 61 %

**C** austic Soda Flakes manufacturing is one of the most strategically important and consistently profitable chemical business opportunities for startups looking to enter the bulk chemical segment with stable long-term demand. In today's fast-growing industrial economy—where sectors like textiles, alumina, soaps & detergents, pulp & paper, pharmaceuticals, petroleum refining, and water treatment are expanding rapidly—caustic soda has become an indispensable basic chemical with applications across hundreds of downstream industries.

India alone consumed nearly 4.6 million tonnes of caustic soda in FY2023, and the demand is expected to almost double to around 9.8 million tonnes by FY2035, growing at a CAGR of approximately 6.47%. This rising demand is closely linked with growth in aluminum production, infrastructure development, textile exports, water purification initiatives, and chemical processing industries—making caustic soda flakes an investment-ready manufacturing project for new entrepreneurs.

From a global perspective, the Caustic Soda Flakes market was valued at about USD 12.69 billion in 2025 and is projected to reach USD 16.81 billion by 2034, indicating steady expansion supported by industrialization across Asia-Pacific regions like India and China. The solid flake form is particularly preferred due to ease of packaging, storage, and transport when compared with liquid lye, especially for export markets and smaller industrial users.

# Caustic Soda Flakes Manufacturing: A High-Demand Chemical Business Opportunity for Startups and MSME Entrepreneurs

For startups associated with consultancy firms like NPCS—where project-driven manufacturing models are being actively promoted under MSME and Atmanirbhar Bharat initiatives—this segment offers a unique combination of:

- Continuous industrial demand
- Wide application base
- Export-friendly packaging
- High consumption in water treatment and textiles

- Integration with chlor-alkali value chain

The India chlor-alkali market itself stood at USD 2.40 billion in 2024 and is expected to reach USD 3.46 billion by 2033, driven by demand from construction, PVC manufacturing, chemicals, and municipal water treatment projects. Government missions like Jal Jeevan Mission are indirectly boosting consumption by increasing demand for water purification chemicals in urban and rural regions.

### Export Potential and Business Outlook

Asia-Pacific dominates global caustic soda consumption due to large-scale textile processing, metal refining, and wastewater treatment infrastructure. With India emerging as one of the world's largest chemical producers—contributing nearly 7% to national GDP—bulk chemicals like caustic soda flakes are witnessing increasing export opportunities across Africa, the Middle East, and Southeast Asia.

The global caustic soda market crossed 80 million tonnes of production in 2024, valued at approximately USD 46.59 billion, underlining the massive industrial relevance of this commodity chemical.

### PROJECT COST ESTIMATE

#### CAPACITY:

**Caustic Soda Flakes (98%) : 8,000 Kgs Per Day**

**by Product Chlorine Gas : 6,948 Kgs Per Day**

**by Product Hydrogen Gas : 197 Kgs Per Day**

**Plant & Machinery : ₹ 655 Lakhs**

**Cost of Project : ₹ 1224 Lakhs**

**Rate of Return : 27%**

**Break Even Point : 47%**

trial relevance of this commodity chemical.

**A** mmonium Nitrate is a chemical compound composed of ammonium and nitrate ions. It is commonly used in various industries due to its explosive and agricultural properties. In simple terms, it is a white crystalline solid that is highly soluble in water and is widely recognized for its ability to generate high levels of oxygen, making it a popular choice in explosive devices.

### The Business Potential of Ammonium Nitrate Manufacturing

When it comes to the business potential of Ammonium Nitrate manufacturing, the opportunities are explosive! With the ever-increasing demand for this versatile chemical compound, entrepreneurs in this field can expect significant growth and profitability. One of the key factors driving the business potential of Ammonium Nitrate manufacturing is its wide range of uses. From agriculture to mining to explosives, this compound plays a vital role in multiple industries. As a high-nitrogen fertilizer, Ammonium Nitrate is in high demand by farmers who rely on it to promote healthy plant growth. In the mining industry, it serves as an effective blasting agent, further highlighting its significance. By adhering to strict regulations and obtaining the necessary licenses, you can establish yourself as a trustworthy and reliable supplier, gaining a competitive edge in the market.

### PROJECT COST ESTIMATE

#### CAPACITY

**Ammonium Nitrate : 2 MT Per Day**

**Plant & Machinery : ₹ 53 Lakhs**

**Cost of Project : ₹ 215 Lakhs**

**Rate of Return : 26%**

**Break Even Point : 51%**

## Start Production of Ammonium Nitrate

### Uses and Applications of Ammonium Nitrate

- Oxidizing Agent
- Cold Packs
- Rocket Propulsion
- Pollution Control
- Metalworking
- Safety Matches
- Pyrotechnics

### The Process of Manufacture

The first step is the synthesis of Ammonium Nitrate, which typically involves reacting ammonia gas with nitric acid. This reaction produces a concentrated Ammonium Nitrate solution, which is then concentrated further through the evaporation process. The resulting concentrated solution is then cooled to allow crystallization, resulting in solid Ammonium Nitrate crystals. After the crystallization process, the next step is to separate the crystals from the mother liquor. This can be achieved through various techniques such as centrifugation or filtration. The

separated crystals are then dried to remove any remaining moisture, ensuring the stability and purity of the final product. Quality control is an essential aspect of the manufacturing process. Regular testing and analysis are conducted to verify the composition and purity of the Ammonium Nitrate. Finally, the packaged Ammonium Nitrate is ready for distribution and sale.

### Market Prospects

Ammonium Nitrate Market Size was valued at USD 17.46 billion in 2021. The Ammonium Nitrate industry is projected to grow from USD 18.10 Billion in 2022 to USD 28.87 billion by 2030, exhibiting a compound annual growth rate (CAGR) of 5.55% during the forecast period (2022–2030). Increasing demand for fertilizers and increasing construction activities rising consumption in explosives are driving market growth. The Ammonium Nitrate market segmentation, based on application, includes Explosives, Fertilizers, and Others. The fertilizers segment held the majority share in 2021 contributing to around ~60%-62% with respect to the Ammonium Nitrate market revenue.

### Conclusion

Starting an Ammonium Nitrate manufacturing business requires a focus on safety, quality control, and environmental sustainability. However, with the right strategies and approaches, you can overcome these challenges and position yourself for explosive growth and success in the industry. Don't miss out on the opportunity to be a part of the booming Ammonium Nitrate market—start your business today and watch it flourish!

In today's health-conscious global marketplace, plant-based superfoods are rapidly transforming the nutraceutical and functional food industries. Among these, Moringa Oleifera Powder, derived from dried drumstick tree

leaves, has emerged as a high-demand natural supplement owing to its exceptional nutritional profile and multi-industry applications in food, cosmetics, and pharmaceuticals.

For startups and first-generation entrepreneurs looking for a scalable agro-processing venture, moringa powder manufacturing presents a low-investment, high-margin opportunity backed by strong export potential and steadily growing global demand.

**Market Size, Share & Industry Overview**

The global moringa products market was valued at around USD 8.78 billion in 2024 and is projected to reach approximately USD 21.07 billion by 2034, expanding at a CAGR of nearly 9.2% during the forecast period. Another industry estimate places the moringa products market at USD 8.15 billion in 2023, expected to grow to over USD 15.4 billion by 2030 at a CAGR of about 9.5%.

This growth is being driven by:

- Rising consumer demand for plant-based dietary supplements

# Moringa Oleifera Powder: A Profitable Nutraceutical Manufacturing Opportunity for Startups

- Expansion of functional foods and herbal cosmetics
- Increasing awareness of immunity-boosting nutraceuticals
- Growth in vegan and organic product segments globally

Asia-Pacific, particularly India, is emerging as the fastest-growing supply hub due to favorable climatic conditions and low cultivation costs.

**Export Potential and Global Trade Opportunity**

India dominates the global moringa supply chain, contributing over 80% of the world's demand and exporting moringa powder worth more than USD 100 million annually.

The country recorded moringa powder exports valued at approximately USD 23.85 million in FY 2024–25, witnessing an impressive 43.59% year-on-year growth.

**Why Entrepreneurs Should Invest in Moringa Powder Manufacturing**

From an industrial feasibility standpoint—

similar to many agro-based DPRs prepared by NPCS—this project offers several strategic advantages:

- Year-round availability of raw material
- Simple and scalable production technology
- Growing global demand in nutraceuticals

- Export-oriented business model
- Low capital investment compared to pharmaceutical-grade extracts
- High shelf life and value addition potential

Moringa powder finds applications in:

- Health supplements
- Herbal teas
- Protein blends
- Cosmetics and skincare
- Functional bakery products
- Ayurvedic and nutraceutical formulations

**PROJECT COST ESTIMATE  
CAPACITY**

<b>Project Capacity</b>	: 1,000 Kgs Per Day
<b>Plant &amp; Machinery</b>	: ₹ 91 Lakhs
<b>Cost of Project</b>	: ₹ 261 Lakhs
<b>Rate of Return</b>	: 28%
<b>Break Even Point</b>	: 52%

Are you curious about what exactly a Truck Trailer, specifically a Flatbed Trailer and Tip Trailer, is? Let's dive into it!

A Truck Trailer is a vehicle without an engine that is towed by a truck or tractor. It is designed to transport goods and materials efficiently and safely. In particular, Flatbed Trailers have a flat platform with no sides or roof, allowing for easy loading and unloading of various cargo. They are versatile and commonly used for transporting construction materials, machinery, and oversized loads. On the other hand, Tip Trailers are specifically designed to transport bulk materials, such as grains, aggregates, or liquids. These trailers have a hydraulic system that allows the container to be tipped, allowing for efficient unloading of the cargo.

**Truck Trailer (Flatbed Trailer & Tip Trailer) Manufacturing**

The manufacturing process involves sourcing high-quality materials such as steel, aluminum, and other components. These materials are then cut, shaped, welded, and assembled to create the trailer body and chassis. The process also includes installing various components such as axles, suspension systems, brakes, and electrical wiring. To ensure the quality of your Truck Trailers, it is crucial to follow industry standards and regulations. This includes conducting thorough inspections and tests

# A Business Plan for Truck Trailer (Flatbed Trailer & Tip Trailer)

throughout the manufacturing process, as well as ensuring compliance with safety and performance standards. Starting a Truck Trailer manufacturing business can be a challenging but rewarding venture. It allows you to combine your passion for trucks and the transportation industry with the opportunity for profit.

**Global Market Outlook**

The Global Truck Trailer Market stood at USD350.92 billion in 2020 and is expected to grow at a CAGR of around 6.18% to reach USD504.98 billion in 2026. The rise in the investments made by

leading authorities of developing economies for the development of the transportation sector and infrastructure development, ongoing construction activities, and launch of new models of the truck trailer are the primary factors driving the growth of the Global Truck Trailer Market in the forecast period. Increasing sales of trucks are accelerating the demand for truck trailers all around the globe. With growing urbanization and industrialization, the market is expected to witness a continuous rise. Truck trailers find applications from several end-user industries such as oil & gas, agriculture, mining, construction, retail, logistics, and others.

Players are investing in replacing the existing fleets with advanced and newer versions of truck trailers which are expected to create lucrative opportunities for the market growth.

**Conclusion**

The market for Truck Trailers is optimistic, with opportunities for growth and innovation. By staying updated on industry trends, incorporating innovative features, and maintaining high-quality standards, you can position your business for success in this dynamic market.

**PROJECT COST ESTIMATE  
CAPACITY:**

<b>Flatbed Trailer</b>	: 6 Nos Per Day
<b>Tipper Trailer</b>	: 6 Nos Per Day
<b>Plant &amp; Machinery</b>	: ₹ 313 Lakhs
<b>Cost of Project</b>	: ₹ 1172 Lakhs
<b>Rate of Return</b>	: 31%
<b>Break Even Point</b>	: 55%

**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

**NIIR PROJECT CONSULTANCY SERVICES**

AN ISO 9001:2015 CERTIFIED COMPANY

106 E, Kamla Nagar, Delhi-110 007 (India). Tel. : 91-11- 23843955

Mob.: +91-9097075054 • 8800733955

Website : www.niir.org • www.entrepreneurindia.co • E-mail : info@niir.org • npc.s.india@gmail.com

**NAME OF BOOKS** ₹

**CHEMICALS, FINE CHEMICALS, VITAMINS, AMINO ACIDS AND PROTEINS**

- Handbook on Chemical Industries (Alcohol Based) ..... 750 /-
- Industrial Chemicals Technology Handbook ..... 1100/-
- The Complete Technology Book on Chemical Industries..... 975/-
- Handbook on Manufacture of Acetophenone, Alcohols, Allethrin, Anthracene, Barium Potassium Chromate Pigment, Calcium Cyanamide, Carboxymethylcellulose, Carotene, Chlorophyll, Chemicals from Acetaldehyde, Fats, Milk, Oranges, Wood, Manufacture of Dye Intermediates and Dyes, Fine Chemicals, Formaldehyde, Granulated Fertilizers, Granulated Triple Superphosphate and Hydroquinone ..... 1100/-
- Handbook on Fine Chemicals, Vitamins, Amino Acids And Proteins ..... 1450/-
- The Complete Book on Non Ferrous and Precious Metals with Electroplating Chemicals..... 1975/-
- Modern Technology of Industrial Chemicals ..... 1100/-
- The Complete Technology Book on Fine Chemicals ..... 1100/-

**PHARMACEUTICAL, DRUGS, API**

- Drugs & Pharmaceutical Technology Handbook ..... 1075/-
- Business Ideas for Startup in Drugs & Pharmaceutical Industry with Project Profiles (L-Ascorbic Acid (Plain), Pharmaceutical Unit, Ciprofloxacin Hydrochloride, Paracetamol, Paracetamol (BP/IP/USP Grade), Sterile Water for Injection, Active Pharma Ingredients Metformin and Ciprofloxacin, IV Fluid (BFS Technology) 3rd Edition # ..... 2595/-
- Handbook on Active Pharmaceutical Ingredients (API), Drugs & Pharmaceutical Products (Paracetamol, Aspirin, IV Fluids, Ointment, Metronidazole, Liquid Glucose, Surgical Cotton, Syrup, Tablet, Excipients, Pharmaceutical Salts with Manufacturing Process, Machinery Equipment Details and Factory Layout)..... 2495/-

**PESTICIDES, INSECTICIDES**

- The Complete Technology Book on Pesticides, Insecticides, Fungicides and Herbicides (Agrochemicals) with Formulae, Manufacturing Process, Machinery & Equipment Details (4th Rev. Edn.) ..... 1975/-
- Biopesticides Handbook ..... 1575/-

**STARCH & ITS DERIVATIVES**

- The Complete Technology Book on Starch & Its Derivatives ..... 1100/-

**WAX & POLISHES**

- The Complete Technology Book on Wax and Polishes ..... 1895/-
- Wax Polishes Manufacturing Handbook with Process and Formulae (Automobile, Industrial, Leather, Furniture, Floor, Marine, Metal and Shoe Polish) 2nd Rev. Edn. .... 1875/-

**JUTE & COIR PRODUCTS**

- The Complete Book on Jute & Coir Products (With Cultivation & Processing) 2nd Rev. Edn. .... 1575/-

**BIO-TECHNOLOGY, NANOTECHNOLOGY, ENZYMES, FOOD BIO-TECHNOLOGY, VERMICULTURE, VERMICOMPOST, BIO-FERTILIZER, ORGANIC FARMING, BIOGAS, MUSHROOM**

- Bio -Technology Handbook ..... 1100/-
- Plant Biotechnology Handbook ..... 1100/-
- Hand Book on Projects in Export Thrust Area with International Market Survey (Bio-Tech & Pharmaceutical Technology) # ..... 1095/-
- Enzymes Bio -Technology Handbook ..... 1100/-
- The Complete Book on Biotechnology Based Bulk Drugs ..... 1050/-
- Handbook on Food Bio-Technology (Extraction, Processing of Fruits, Vegetables and Food Products) 2nd Revised Edition..... 1495/-
- Handbook on Plants and Cell Tissue Culture ..... 1275/-
- The Complete Technology Book on Vermiculture and Vermicompost (Earthworm) with Manufacturing Process, Machinery Equipment Details & Plant Layout (3rd Edn.) ..... 1475/-
- The Complete Technology Book on Biofertilizer and Organic Farming (Potash, Greenhouse Farming, Hydroponic Farming, Pellet Fertilizer, Seaweed Fertilizer, Biogas with Manufacturing Process, Machinery Equipment Details) (4th Revised Edition) ..... 1995/-
- Handbook on Mushroom Cultivation and Processing (With Dehydration, Preservation and Canning) ..... 1275/-
- The Complete Book on Organic Farming and Production of Organic Compost (3rd. Rev. Edn.) ..... 1675/-
- Nanotechnology Handbook ..... 1675/-
- Nanoscience and Nanotechnology Handbook ..... 1675/-
- Integrated Organic Farming Handbook ..... 1275/-
- Handbook on Organic Farming and Processing ..... 1275/-
- Handbook on Small & Medium Scale Industries (Biotechnology Products) ..... 1695/-
- Manufacture of Biofertilizer and Organic Farming (2nd Edn.) ..... 1195/-

# Limited Edition—only photostat copy available

**NAME OF BOOKS** ₹

- The Complete Book on Industrial Gases (Acetylene, Argon, Butane, Butene, Carbon Dioxide, Carbon Monoxide, Ethane, Ethene, Helium, Hydrogen Chloride, Hydrogen, Krypton, Liquefied Natural Gas (LNG), Methane, Neon, Nitrogen, Nitrogen Trifluoride Gas, Nitrous Oxide, Oxygen, Propane, Propene, Refrigerant Gases, Sulphur Dioxide Gas, Sulphur Hexafluoride Gas, Xenon, Gas Mixtures with Machinery Equipment Details and Factory ..... 2495/-
- Biogas and Compressed Biogas (CBG) Production Handbook (From Waste & Renewable Resources) ..... 1775/-

**FERTILIZER, BIOFUEL**

- Handbook on Biofuel, Ethanol and Bioenergy Based Products (Ethanol as Biofuel, Methane Gas, Biodiesel, Biogas, Biomass Gasification, Bio-Chemical, Renewable Energy, Clean-Energy, Activated Carbon, Agricultural Residues, Forestry Residues, Animal Waste, Wood Wastes, Industrial Wastes, Municipal Solid Wastes and Sewage with Machinery, Manufacturing Process, Equipment Details and Plant Layout) ..... 1875/-
- Fertilizers Manufacturing Handbook (Ammonium Sulfate, Diammonium Phosphate (DAP), Urea-Ammonium Nitrate, Neem Coated Urea, N.P.K. Complex Fertilizers, Single Superphosphate (SSP), Triple Superphosphate, Zinc Sulfate Monohydrate, Magnesium Sulfate with Manufacturing Process, Machinery Equipment Details & Factory Layout ..... 2795/-

**BIOPLASTIC, BIODEGRADABLE**

- Bioplastics & Biodegradable Products Manufacturing Handbook (Bioplastic Carry Bags, Bio-PET, Bioplastic Drinking Straws, Corn and Rice Starch-Based Bioplastics, Food Packaging Applications, Cassava Bags, Biodegradable Tableware, Biodegradable Plates, Biodegradable Toilet Paper, Starch Based Biodegradable Plastics, Polylactic Acid (PLA)) ..... 1575/-
- Handbook on Biodegradable Plastics (Eco-Friendly Plastics) ..... 600/-

**PRINTING, PACKAGING, PRINTING INK**

- Handbook on Modern Packaging Industries (2nd Rev. Edn.) ..... 1675/-
- Modern Technology of Printing & Writing Inks (2nd Rev. Edn.) ..... 1475/-
- The Complete Technology Book on Printing Inks ..... 1000/-
- Handbook on Printing Technology (Offset, Flexo, Gravure, Digital, 3D Printing with Book Binding & CTP) (6th Revised Edition) ..... 2475/-
- Screen Printing Technology Handbook ..... 1000/-
- The Complete Book on Printing Technology with Process Flow Diagrams, Plant Layouts and Machinery Details (Offset, Gravure, Flexographic, Security, Web Offset and Pad Printing) 3rd Rev. Edn. .... 1895/-

**PAPER, PULP & PAPER CONVERSION**

- Modern Technology of Pulp, Paper and Paper Conversion Industries ..... 1000/-
- The Complete Technology Book on Pulp & Paper Industries ..... 1100/-
- Handbook on Pulp and Paper Processing ..... 1875/-

**VEGETABLES, SPICES, AGRO BASED, CEREAL FOOD, MILK, PLANTATION, FARMING, FOOD & BEVERAGES, FRUITS, DAIRY, OILS & FATS, FISHERIES, MEAT, COCONUTS, SUGARCANE, TEA CULTIVATION & PROCESSING**

- Cultivation of Fruits, Vegetables and Floriculture ..... 1100/-
- Cultivation of Tropical, Subtropical, Vegetables, Spices, Medicinal and Aromatic Plants ..... 1075/-
- Tropical, Subtropical Fruits and Flowers Cultivation ..... 1075/-
- Food Packaging Technology Handbook (Biodegradable Films, Materials, Polymers, Aseptic Packaging, Labels and Labelling, Packaging of Cashew Nuts, Dairy Products, Milk, Fish, Meat, Shrimps, Canning of Vegetables, Fruits with details of Machinery and Equipments) 4th Rev.Edn. .... 1995/-
- Modern Technology on Food Preservation (2nd Rev. Edn.) ..... 1275/-
- Modern Technology of Food Processing & Agro Based Industries (Confectionery, Bakery, Breakfast Cereal Food, Dairy Products, Sea Food, Fruits & Vegetable Processing) with Project Profiles (3rd Rev. Edn) ..... 1775/-
- Modern Technology of Agro Processing & Agricultural Waste Products ..... 975/-
- Handbook on Agro Based Industries (Garlic Oil and Powder, Biomass Briquettes from Bio Waste, Moringa Oleifera (Drumstick) Powder, Dehydrated Onion, Aloe Vera Gel and Powder, Cashew Nut Shell Oil and Cardanol, Rice Powder, Puttu and Wheat Powder, Fructose Syrup from Broken Rice, Potato Powder, Granules and Pellets, Rice Flakes and Puffed Rice, Cashew Nut Processing Unit, Banana, Onion, Orange and Tomato Powder & Disposable Plate and Cups from Waste Rice Husk Powder) 3rd Edition # ..... 1775/-
- Handbook on Spices ..... 975/-
- Modern Technology of Oils, Fats & Its Derivatives (2nd Rev. Edn.) ..... 1875/-
- Detailed Project Profiles on Dairy & Dairy Products (Dairy Industry, Dairy Packaging, Dairy Farming & Dairy Products, Chocolate Confectionery Plant, Cheese Analogue, Milk Processing, Skimmed Milk Powder & UHT Milk Plant) 3rd Revised Edition # ..... 2595/-
- Modern Technology of Milk Processing & Dairy Products (4th Rev. Edn.) ..... 1475/-
- The Complete Technology Book on Dairy & Poultry Industries with Farming & Processing (2nd Rev. Edn.) ..... 1275/-
- Handbook on Drying, Milling and Production of Cereal Foods (Wheat, Rice, Corn, Oat, Barley and Sorghum Processing Technology) (2nd. Rev. Edn.) ..... 1295/-
- The Complete Book on Spices & Condiments (With Cultivation, Processing & Uses) (2nd Rev. Edn.) ..... 2275/-

## NAME OF BOOKS

₹

- The Complete Book on Coconut & Coconut Products (Coconut Cultivation, Manufacturing Process of Coconut Oil, Desiccated Coconut, Coconut Powder, Coconut Milk, Coconut Milk Powder, Coconut Chips, Coconut Water, Vinegar, Activated Carbon, Coconut Jam with Machinery Equipment Details & Factory Layout) 3rd Rev. Edition ..... 2375/-
- Rabbit, Goat, Sheep, Poultry, Fish and Pig Farming with Feed Technology ..... 1100/-
- The Complete Technology Book on Processing, Dehydration, Canning, Preservation of Fruits & Vegetables (Processed Food Industries) (5th Rev. Edn.) ..... 1950/-
- Handbook on Fruits, Vegetable & Food Processing with Canning & Preservation (3rd Rev. Edn.) ..... 1475/-
- Handbook on Fisheries and Aquaculture Technology ..... 1100/-
- The Complete Book on Meat Processing and Preservation with Packaging Technology ..... 1275/-
- Preservation of Meat and Poultry Products (Preservation Techniques, Luncheon Meats, Meat Loaves, Meat Spreads, Canned Meat Products, Maintenance of Eggs, Soups, Gravies, Sauces, Sausage with Machinery, Equipment Details & Factory Layout) ..... 1575/-
- The Complete Technology Book on Meat, Poultry and Fish Processing (2nd Revised Edition) ..... 1475/-
- Potato and Potato Products Cultivation, Seed Production, Manuring, Harvesting, Organic Farming, Storage and Processing ..... 1275/-
- Handbook on Rice Cultivation and Processing ..... 1075/-
- The Complete Book on Beekeeping and Honey Processing (2nd Rev. Edn.) ..... 1475/-
- Handbook on Citrus Fruits Cultivation and Oil Extraction ..... 1575/-
- Fruits, Vegetables, Corn and Oilseeds Processing Handbook ..... 1675/-
- Handbook on Spices and Condiments (Cultivation, Processing and Extraction) ..... 1575/-
- Handbook on Fermented Foods and Chemicals ..... 1875/-
- Handbook on Milk and Milk Proteins ..... 1275/-
- The Complete Book on Cultivation and Manufacture of Tea (2nd Rev. Edn.) ..... 1625/-
- The Complete Book on Sugarcane Processing and By-Products of Molasses (with Analysis of Sugar, Syrup and Molasses) ..... 1675/-
- The Complete Book on Fruits, Vegetables and Food Processing ..... 1675/-
- The Complete Book on Cashew (Cultivation, Processing & By-Products) ..... 1775/-
- The Complete Book on Tomato & Tomato Products Manufacturing (Cultivation & Processing) 2nd. Rev. Edn. .... 1400/-
- The Complete Book on Onion & Garlic Cultivation with Processing (Production of Onion Paste, Flakes, Powder & Garlic Paste, Powder, Flakes, Oil) 2nd Revised Edition ..... 1575/-
- Handbook on Pig Farming and Pork Processing (Feeding Management, Breeding, Housing Management, Sausages, Bacon, Cooked Ham with Packaging) 2nd Rev. Edn. .... 1275/-
- Handbook on Manufacture of Indian Kitchen Spices (Masala Powder) with Formulations, Processes and Machinery Details (Chaat Masala, Sambar Masala, Pav Bhaji Masala, Garam Masala, Goda Masala, Pani Puri Masala, Kitchen King Masala, Thandai Masala Powder, Meat Masala, Rasam Powder, Kesari Milk Masala, Punjabi Chole Masala, Shahi Biryani Masala, Tea Masala Powder, Jaljeera Masala, Tandoori Masala, Fish Curry Masala, Chicken Masala, Pickle Masala, Curry Powder) (6th Rev. Edn.) ..... 1995/-
- The Complete Book on Ginger Cultivation and Manufacture of Value Added Ginger Products (Ginger Storage, Ginger Oil, Ginger Powder, Ginger Paste, Ginger Beer, Instant Ginger Powder Drink and Dry Ginger from Green Ginger) ..... 1575/-
- 55 Most Profitable Micro, Small, Medium Scale Food Processing (Processed Food) Projects and Agriculture Based Business Ideas for Startup (2nd Revised Edition) ..... 1495/-
- Manufacture of Pan Masala, Tobacco and Tobacco Products (Tobacco Cultivation, Chewing Tobacco, Cigarettes, Bidi, Cigars, Khaini, Zarda, Gutka, Katha, Mouth Freshner, Pan Chatni, Kimam, Sweet Supari, Nicotine Sulphate, USP Nicotine, Nicotine Tartarate, Nicotine, Polacrillex Resin) 2nd Rev. Edn. .... 2225/-
- फूड प्रोसेसिंग इंडस्ट्रीज (खाद्य प्रसंस्करण एवं कृषि आधारित उद्योग परियोजनाएँ) 2nd Rev. Edn. .... 1475/-
- Handbook on Maize (Corn) Processing and Manufacture of Maize Products (Oil, Starch, Corn Steep Liquor, Syrup, Cornmeal, Popcorn, Flakes, Gluten, Husk, Anhydrous Dextrose, High Maltose Syrup, Maltodextrin Powder, Monohydrate Dextrose, Sorbitol, Ethanol, Cattle Feed with Manufacturing Processes, Equipment Details and Plant Layout) ..... 1895/-
- The Complete Book on Gums and Stabilizers for Food Industry ..... 1275/-
- Millet Production, Processing and Value-Added Products Handbook (Millet Cookies, Flakes, Flour, Noodles, Pasta, Beverages, Extruded Snacks, Extruded Flakes, Instant Dosa Mix, Instant Pongal Mix, Instant Sorghum Idli Mix, Instant Sorghum Upma Mix, Bread, Cakes, Instant Laddu Mix, Pizza Base, Rawa/Suji, Vermicelli, Puffs and Sorghum Muesli with Manufacturing, Machinery, Equipment Details & Factory Layout) ..... 2495/-
- Handbook on Spices, Seasonings and Condiments - Processing, Extraction with Kitchen Spices Manufacturing ..... 2595/-

# Limited Edition—only photostat copy available

## NAME OF BOOKS

₹

- Handbook on Meat Products Manufacturing (Processing, Preservation and Packaging) ..... 2195/-

### CONFECTIONERY, COCOA, CHOCOLATE, ICE CREAM, BAKERY & SNACKS

- Modern Technology of Confectionery Industries with Formulae & Processes (2nd Rev. Ed.) ..... 600/-
- The Complete Technology Book of Cocoa, Chocolate, Ice Cream and Other Milk Products ..... 1275/-
- The Complete Technology Book on Flavoured Ice Cream (Manufacturing Process, Flavours, Formulations with Machinery Details) 2nd Revised Edition ..... 1475/-
- The Complete Technology Book on Bakery Products (Baking Science with Formulation & Production (5th Rev. Edition) ..... 1875/-
- The Complete Technology Book on Snack Foods (2nd Rev. Edn.) ..... 1475/-
- Confectionery Products Handbook (Chocolate, Toffees, Chewing Gum & Sugar Free Confectionery) ..... 1975/-
- Handbook on Natural and Flavoured Ice Cream Manufacturing (Flavours, Formulae and Machinery Details) ..... 1575/-

### SMALL SCALE INDUSTRY (SSI), ENTREPRENEURSHIP, PROJECT IDENTIFICATION AND PROFILES, HI-TECH PROJECTS, EXPORT BUSINESS, GUIDELINES, SELF EMPLOYMENT, WOMEN ENTREPRENEURSHIP, SMALL, COTTAGE & HOME INDUSTRIES

- Stop Dreaming—Start Your New Business ..... 400/-
- What No One Ever Tells You About Starting Your Business—Facilities and Procedures for Entrepreneurs ..... 400/-
- Secrets for Making Big Profits from Your Business with Export Guidelines ..... 400/-
- Opportunities for Women Entrepreneurship (With Project Profiles) 2nd Edition ..... 575/-
- लघु व कुटीर उद्योग (स्मॉल स्केल इण्डस्ट्रीज) (5th Revised Edition) ..... 1150/-
- Profitable Small, Cottage & Home Industries ..... 800/-
- Select and Start Your Own Industry (4th Revised Edition) ..... 475/-
- Just For Starters : How To Start Your Own Export Business ? 6th Revised Edition ..... 999/-
- Just For Starters : How To Become A Successful Businessman ? 3rd Revised Edition ..... 475/-
- Best Businesses You Can Start With Low Cost (2nd Rev. Edition) ..... 750/-
- 50 Projects To Start With 5,00,000 ..... 475/-
- Just For Starters: Selected Projects To Start With 30,00,000 ..... 475/-
- Just For Starters: Selected Projects To Start With 15,00,000 ..... 475/-
- Just For Starters : Selected Projects To Start With 35,00,000 ..... 475/-
- Grow Rich By Starting Your Own Business ..... 325/-
- 50 Best Home Businesses To Start with Just 50,000 ..... 425/-
- Profitable Cottage and Tiny Industries ..... 475/-
- Money Making Business Ideas You Can Start from Home with Low Costs (Profitable Part Time, Spare Time and Side Businesses) 2nd Revised Edition ..... 800/-
- स्मॉल स्केल इण्डस्ट्रीज प्रोजेक्ट्स (लघु, कुटीर व घरेलू उद्योग परियोजनाएँ उद्यमिता मार्गदर्शिका) 2nd Rev. Edn. .... 950/-
- Start-Up Projects for Entrepreneurs : 50 Highly Profitable Small & Medium Industries—2nd Rev. Edn. .... 1700/-
- Entrepreneurs Start-Up Handbook: Manufacturing of Profitable Household (FMCG) Products with Process & Formulations (2nd Rev. Edition) ..... 1675/-
- Profitable Small Scale Industries Money making Business Ideas for Startup (when you don't know what industry to start) ..... 975/-

### FASHION TECHNOLOGY

- Fashion Technology Handbook ..... 495/-

### CANDLE: MAKING & DESIGNS

- The Complete Technology Book on Candle: Making & Designs ..... 650/-

### PLASTICS, SPECIALITY PLASTICS, FOAMS (URETHANE, FLEXIBLE, RIGID), PET & PREFORM, POLYESTER FIBERS, MOULD DESIGNS, PLASTIC FILMS, HDPE AND THERMOSET PLASTICS, MEDICAL PLASTICS, INDUSTRIAL POLYMERS, ADDITIVES, COLOURANTS AND FILLERS, FIBRE GLASS, OPTICAL GLASS AND REINFORCED PLASTICS

- Modern Technology of Plastic Processing Industries (2nd Edn.) ..... 975/-
- Detailed Project Profiles on Hi-Tech Plastic Products (2nd Rev. Edn.)# ..... 1895/-
- Handbook on Pet Film and Sheets, Urethane Foams, Flexible Foams, Rigid Foams, Speciality Plastics, Stretch Blow Moulding, Injection Blow Moulding, Injection and Co-Injection Preform Technologies ..... 1275/-
- Polymers and Plastics Technology Handbook ..... 750/-
- The Complete Book on Medical Plastics ..... 975/-
- The Complete Technology Book on Expanded Plastics, Polyurethane, Polyamide and Polyester Fibers ..... 1275/-
- The Complete Technology Book on Industrial Polymers, Additives, Colourants and Fillers ..... 1100/-
- The Complete Technology Book on Polymers (With Processing & Applications) ..... 1100/-

## NAME OF BOOKS

₹

- The Complete Technology Book on Plastic Extrusion, Moulding and Mould Designs (2nd Rev. Edn.) ..... 1475/-
- The Complete Technology Book on Fibre Glass, Optical Glass and Reinforced Plastics.....1275/-
- The Complete Technology Book on Plastic Films, HDPE and Thermoset Plastics.....1175/-
- Modern Technology of Plastic and Polymer Processing Industries.....750/-
- The Complete Book on Water Soluble Polymers .....1575/-
- Speciality Plastics, Foams (Urethane, Flexible, Rigid) Pet & Preform Processing Technology Handbook.....1275/-

## LEATHER PROCESSING & TANNING

- Leather Processing & Tanning Technology Handbook.....1400/-

## TEXTILE SPINNING, WEAVING, FINISHING AND PRINTING, PROCESSING WITH EFFLUENT TREATMENT, TEXTILE DYES & PIGMENTS, NATURAL DYES & PIGMENTS, NATURAL FIBERS, JUTE & COIR

- The Complete Technology Book on Textile Spinning, Weaving, Finishing and Printing (4th Rev. Edn.) .....1875/-
- The Complete Technology Book on Textile Processing with Effluent Treatment.....1000/-
- Modern Technology of Textile Dyes & Pigments (3rd Rev. Edn.) .....2575/-
- The Complete Technology Book on Dyes and Dye Intermediates (2nd Rev. Edn.) .....1995/-
- The Complete Book on Natural Dyes & Pigments.....1100/-
- Handbook on Natural Dyes for Industrial Applications (Extraction of Dyestuff from flowers, Leaves, Vegetables) 2nd Rev. Edn.....1575/-
- Natural Fibers Handbook with Cultivation & Uses.....1275/-
- Woollen Spinning, Weaving, Knitting, Dyeing, Bleaching and Printing Technology Handbook .....1100/-
- Handbook on Textile Auxiliaries, Dyes and Dye Intermediates Technology .....1575/-
- The Complete Book on Textile Processing and Silk Reeling Technology .....1750/-
- A Concise Guide on Textile Dyes, Pigments and Dye Intermediates with Textile Printing Technology.....1675/-

## ELECTROPLATING, ANODIZING & METAL TREATMENT, POWDER COATING AND METAL FINISHING

- Electroplating, Anodizing & Metal Treatment Handbook .....1475/-
- The Complete Technology Book on Electroplating, Phosphating, Powder Coating and Metal Finishing (3rd Rev. Edn.) .....1695/-
- Handbook on Electroplating with Manufacture of Electrochemicals (2nd Rev. Edn.) .....1975/-

## RUBBER PROCESSING, RUBBER CHEMICALS AND COMPOUNDING

- The Complete Book on Rubber Processing and Compounding Technology (Rubber Vulcanization, Compounding, Rubber Gloves, Condoms, Rubber Band, Latex Mattress, Bushings, Gasket, Sheets, Tubing, Tyre, Hoses, Conveyor Belt, Latex and Foam Rubber, Silicone Rubber, Reclaimed Rubber, Waste Tyre Recycling with Manufacturing Process, Machinery Equipment Details and Factory Layout) (4th Revised Edition) .....2350/-
- The Complete Book on Rubber Chemicals.....1575/-

## SURFACE COATING, PAINTS, VARNISHES & LACQUERS

- The Complete Book on Resins (Alkyd, Amino, Phenolic, Polyurethane Epoxy, Silicone, Acrylic) Paints, Varnishes, Pigments & Additives (Surface Coating Products with Formulae) 3rd Rev. Edn. ....2275/-
- Paints, Pigments, Varnishes and Enamels Technology Handbook (With Process & Formulations) 2nd Rev. Edn. ....1675/-
- Modern Technology of Paints, Varnishes & Lacquers (3rd Edn.) .....2200/-
- Handbook on Paints and Enamels.....1275/-
- Surface Coating Technology Handbook .....1475/-
- Spirit Varnishes Technology Handbook (with Testing and Analysis) .....1275/-
- The Testing Manual of Paints, Varnishes and Resins.....1875/-
- Handbook on Paint Testing Methods .....1575/-
- Manufacture of Thinners & Solvents (Properties, Uses, Production, Formulation with Machinery Details) 2nd Edn. Rev.....1875/-
- Manufacture of Paint Varnish & Allied Products (Industrial Paint, N.C. Thinner, Paint Industry, Infrared Reflected (IR) Paint, High Temperature Aluminium Based Paint, Paint Drier, Powder Coating Paint, Latex Paints for Roof) 3rd Edition # .....1995/-

## GUMS, ADHESIVES & SEALANTS, ROSIN & DERIVATIVES, RESINS AND OLEORESINS

- Gums, Adhesives & Sealants Technology (with Formulae & their Applications) 2nd Rev. Edn. ....1475/-
- Adhesives Formulary Handbook (Adhesives for Construction, Fabric, Packaging, Paper, Film, Flocking, Foam, Water-Based, Oil-Based, Corrugation, Labelling, Hot Melt Adhesives, Pressure Sensitive Adhesives, Hot Melt Coatings, Grouting Compounds, Epoxy Adhesives, Caulking, Cement, Concrete and Plaster Patching Compounds, Glazing Compounds, Joint Cements, Mastics, Putties, Sealants, Solders with Machinery Equipment Details & Factory Layout).....1895/-
- Handbook on Speciality Gums, Adhesives, Oils, Rosin & Derivatives, Resins, Oleoresins, Katha, Chemicals with Other Natural Products .....2175/-

# Limited Edition—only photostat copy available

## NAME OF BOOKS

₹

- The Complete Book on Adhesives, Glues & Resins Technology (with Process & Formulations) 2nd Rev. Edn. ....1675/-
- The Complete Technology Book on Industrial Adhesives.....1675/-
- The Complete Book on Water Soluble Gums and Resins .....1675/-

## SYNTHETIC, ALKYD, EPOXY AND PHENOLIC RESINS

- Modern Technology of Synthetic Resins & Their Applications (2nd Revised Edition).....1575/-
- Synthetic Resins Technology Handbook .....1100/-
- The Complete Technology Book on Synthetic Resins with Formulae & Processes .....1150/-
- Alkyd Resins Technology Handbook (2nd Rev. Edition).....1995/-
- Epoxy Resins Technology Handbook (Synthesis, Epoxy Resin Adhesives, Epoxy Coatings) with Manufacturing Process and Machinery Equipment Details (3rd Revised Edition).....2275/-
- Phenolic Resins Technology Handbook (2nd Revised Edition) .....1895/-

## PETROLEUM, GREASES, PETROCHEMICALS, LUBRICANTS

- Modern Technology of Petroleum, Greases, Lubricants & Petrochemicals (Lubricating Oils, Cutting Oil, Additives, Refining, Bitumen, Waxes with Process and Formulations) 3rd Rev. Edn. ....1995/-
- The Complete Book On Distillation And Refining of Petroleum Products (Lubricants, Waxes And Petrochemicals) .....975/-
- Lubricating Oils, Greases and Petroleum Products Manufacturing Handbook.....1475/-
- Manufacturing of Petroleum Products (Petroleum Waxes, Greases and Solid Lubricants, Solid Fuels, Gaseous Fuels, Gasoline, Diesel Fuel Oils, Automotive, Diesel and Aviation Fuels, Lubricating Oils and Lubricating Greases).....1675/-
- Petroleum & Petroleum Products Technology Handbook (Thermal Cracking of Pure Saturated Hydrocarbons, Petroleum Asphalts, Refinery Products, Blending and Compounding, Oil Refining and Residual Fuel Oils).....1875/-

## WASTE MANAGEMENT, PRODUCTS FROM WASTE, MEDICAL, MUNICIPAL WASTE, E-WASTE, BIOMASS, MEDICAL & SURGICAL DISPOSABLE PRODUCTS

- Products from Waste (Industrial & Agro Waste) 2nd Edition .....975/-
- Handbook on Recycling & Disposal of –Hospital Waste Municipal, –Solid Waste, –Biomedical Waste, –Plastic Waste.....1275/-
- Water and Air Effluents Treatment Handbook.....1275/-
- The Complete Guide on Industrial Pollution Control .....1275/-
- The Complete Book on Managing Food Processing Industry Waste .....1275/-
- Handbook on Organic Waste for Biological Treatment, Liquid Manure into a Solid, Tomato Waste Water Treatment, Oxalic Acid from Jute Stick, Cotton Processing Waste, Fish Waste, Agro-Industrial Wastes, Bioconversion of Pretreated Wheat Straw and Sunflower Stalks to Ethanol, Agricultural Waste Treatment, Waste of Dehydrated Onion, Beef-Cattle Manure Slurry, Meat Meal and Algae for Calves, Wastes from Large Piggeries, Pig Waste, Oxytetracycline, Methane from Cattle Waste .....1275/-
- Handbook on Medical and Surgical Disposable Products (Blood Bags, Plastic Gloves, I.V. Cannula, Infusion Set, Gowns, Masks, Catheter, Cotton and Bandage, Surgical Wear, Syringes) .....1775/-
- Disposable Products Manufacturing Handbook (Plastic Cups, Cutlery, Paper Cups, Banana Leaf Plates, Facial Tissues, Wet Wipes, Toilet Paper Roll, Sanitary Napkins, Baby Diapers, Thermocol Products, PET Bottles).....1575/-
- The Complete Technology Book on E-Waste Recycling (Printed Circuit Board, LCD, Cell Phone, Battery, Computers) 3rd Rev. Edn.....1975/-
- The Complete Book on Waste Treatment Technologies (Industrial, Biomedical, Water, Electronic, Municipal, Household/ Kitchen, Farm Animal, Dairy, Poultry, Meat, Fish & Sea Food Industry Waste and Machinery Equipment Details) 2nd Revised Edition .....2095/-
- Manufacture of Value Added Products from Rice Husk (Hull) and Rice Husk Ash (RHA) (Precipitated Silica, Activated Carbon, Cement, Electricity, Ethanol, Hardboard, Oxalic Acid, Paper, Particle Board, Rice Husk Briquettes, Rice Husk Pellet, Silicon, Sodium Silicate Projects) 3rd Rev. Edition .....1995/-
- Medical, Municipal and Plastic Waste Management Handbook.....1275/-
- The Complete Book on Biological Waste Treatment and their Utilization .....1675/-
- Recycling Business Handbook *Industrial and Agricultural Waste Processing* (Automated Vehicle Scrapping, Bio Coal Briquettes, Caffeine Extraction, Disposable Tableware, E-Waste, Lead Acid Battery, Lithium-Ion Battery, Lubricating Oils, Organic Fertilizer, Particle Board, PET Bottles, Waste Tyre Pyrolysis, Aluminium, Biomedical Waste, Biomass Charcoal, Activated Carbon, PET Flakes, Rice Bran Oil).....1995/-

## NAME OF BOOKS

₹

### HOSPITALITY, MEDICAL, ENTERTAINMENT, WAREHOUSING, EDUCATION BUSINESS PROJECTS

- How to Start Profitable Education Business (12 Detailed Project Profiles) (Engineering, Dental, ITI, Management, Marine Engineering, Medical, Pharmacy, Polytechnic College and Schools) 2nd Revised Edition # ..... 2295/-

### WOOD AND ITS DERIVATIVES, BAMBOO PLANTATION

- The Complete Technology Book on Wood and Its Derivatives ..... 1100/-
- Bamboo Plantation and Utilization Handbook ..... 1475/-

### HERBAL PRODUCTS, AYURVEDIC, HERBAL & UNANI MEDICINES, DRUGS, NEEM, HERBS & MEDICINAL PLANTS CULTIVATION, COSMETICS, NATURAL PRODUCTS, JATROPHA

- Handbook on Unani Medicines with Formulae, Processes, Uses and Analysis (3rd Revised Edition) ..... 1795/-
- Handbook on Herbal Drugs And Its Plant Sources ..... 1000/-
- Herbal Foods And Its Medicinal Values ..... 1275/-
- Herbal Cosmetics & Ayurvedic Medicines (Eou) (3rd Rev. Edn.) ..... 1475/-
- Handbook on Ayurvedic and Unani Medicines with Formulae, Process & Their Uses ..... 2495/-
- Herbal Cosmetics Handbook (Formulae, Manufacturing Processes with Machinery & Equipment Details (5th Rev. Edn.) ..... 1875/-
- The Complete Technology Book on Herbal Beauty Products (Cosmetic Industry) with Formulations, Manufacturing Process, Machinery Equipment Details & Plant Layout (4th Revised Edition) ..... 1850/-
- Modern Technology of Cosmetics ..... 1100/-
- Handbook of Herbal Products (Medicines, Cosmetics, Toiletries, Perfumes) 2 Vols. .... 1500/-
- Herbs Cultivation & Medicinal Uses ..... 975/-
- Herbs Cultivation & Their Utilization ..... 800/-
- Medicinal Plants Cultivation & Their Uses ..... 975/-
- Compendium of Medicinal Plants ..... 875/-
- Compendium of Herbal Plants ..... 975/-
- Cultivation And Processing of Selected Medicinal Plants ..... 1175/-
- Aromatic Plants Cultivation, Processing and Uses ..... 975/-
- Cultivation and Utilization of Aromatic Plants ..... 1100/-
- The Complete Book on Jatropha (Bio-Diesel) with Ashwagandha, Stevia, Brahmi & Jatamansi Herbs (Cultivation, Processing & Uses) ..... 1500/-
- Handbook on Medicinal Herbs With Uses ..... 1075/-
- Aloe Vera Handbook Cultivation, Research Findings, Products, Formulations, Extraction & Processing ..... 1275/-
- Handbook on Herbs Cultivation & Processing ..... 875/-
- Handbook of Neem & Allied Products ..... 975/-
- Handbook on Herbal Medicines (Ayurveda Cream, Oil, Pain Balm, Tablet, Herbal Capsules, Churna, Syrup, Medicines with Composition, Rasa Preparations with Production Process, Machinery, Equipment Details and Factory Layout) 2nd edition ..... 1675/-
- Handbook on Cosmetics (Processes, Formulae with Testing Methods) ..... 1675/-
- Handbook on Drugs from Natural Sources ..... 1175/-

### ESSENTIAL OILS, AROMATIC CHEMICALS, PERFUMES, FLAVOURS, FOOD COLOURS

- The Complete Technology Book of Essential Oils (Aromatic Chemicals (Reprint 2011)) ..... 1275/-
- Essential Oil Hand Book ..... 975/-
- The Complete Technology Book on Herbal Perfumes & Cosmetics (2nd Rev Edn.) ..... 1275/-
- Modern Technology of Perfumes, Flavours and Essential Oils 2nd Edn. .... 975/-
- Food Colours, Flavours And Additives Technology Handbook (2nd Revised Edition) ..... 1895/-
- Food Flavours Technology Handbook ..... 1075/-
- The Complete Technology Book on Flavours, Fragrances and Perfumes (2nd Rev. Edn.) ..... 1975/-
- Perfumes and Flavours Technology Handbook with Manufacturing Formulations, Process, Machinery Equipment Details & Factory Layout (3rd Edition) ..... 2275/-
- Handbook on Perfume, Deodorant, Air Freshener, Body Spray, Fragrances, Flavours and Essential Oil Industry with Manufacturing Formulations, Process, Machinery Equipment Details & Factory Layout (2nd Rev. Edn.) ..... 1875/-

### SOAPS, DETERGENTS, ACID SLURRY, TOILETRIES & DISINFECTANTS

- Modern Technology of Soaps, Detergents & Toiletries (With Formulae & Project Profiles) (4th Rev. Edn.) ..... 1275/-
- Herbal Soaps & Detergents Handbook ..... 1275/-
- Handbook on Soaps, Detergents & Acid Slurry (3rd Rev. Edn.) ..... 1575/-
- The Complete Technology Book on Detergents (2nd Rev. Edn.) ..... 1100/-
- The Complete Technology Book on Soaps (2nd Revised Edn.) ..... 1425/-

# Limited Edition—only photostat copy available

## NAME OF BOOKS

₹

- Surfactants, Disinfectants, Cleaners, Toiletries, Personal Care Products Manufacturing and Formulations (Phenyl, Naphthalene Ball, Mosquito Coil, Floor Cleaner, Glass Cleaner, Toilet Cleaner, Utensil Cleaning Bar, Liquid Detergent, Detergent Powder, Detergent Soap, Liquid Soap, Handwash, Hand Sanitizer, Herbal Shampoo, Henna Based Hair Dye, Herbal Cream, Shaving Cream, Air Freshener, Shoe Polish, Tooth Paste) 3rd Revised Edition ..... 1895/-
- Soaps, Detergents and Disinfectants Technology Handbook (Washing Soap, Laundry Soap, Handmade Soap, Detergent Soap, Liquid Soap, Hand Wash, Liquid Detergent, Detergent Powder, Bar, Phenyl, Floor Cleaner, Toilet Cleaner, Mosquito Coils, Naphthalene Balls, Air Freshener, Hand Sanitizer and Aerosols Insecticide) (3rd Revised Edition) ..... 1595/-

### GLASS, CERAMICS, COAL, LIGNIN, RARE EARTH & MINERALS

- The Complete Book on Glass & Ceramics Technology (2nd Revised Edition) ..... 1495/-
- The Complete Book on Glass Technology ..... 1625/-
- The Complete Technology Book on Minerals & Mineral Processing ..... 2200/-
- Handbook on Rare Earth Metals and Alloys (Properties, Extraction, Preparation and Applications) ..... 1875/-
- Hand book on Coal, Coke, Cotton, Lignin, Hemicellulose, Wood, Wood-Polymer Composites, Lignocellulosic-Plastic Composites from Recycled Materials, Wood Fiber, Rosin and Rosin Derivatives ..... 1875/-

### ALUMINIUM, STEEL, FERROUS, NON-FERROUS METALS WITH CASTING AND FORGING, FERROALLOYS & AUTOMOBILE COMPONENTS

- The Complete Technology Book on Hot Rolling of Steel (Hot Strip Mill, Hot Rolled Steel Plates, Hot Rolled Coils, Hot Rolled Steel Bars, Railway Track, TMT Bars) 2nd Rev. Edn. .... 1975/-
- Steel Rolling Technology Handbook (2nd Revised Edition) ..... 1775/-
- The Complete Book on Ferrous, Non-Ferrous Metals with Casting and Forging Technology ..... 1575/-
- The Complete Technology Book on Aluminium and Aluminium Products ..... 1450/-
- The Complete Technology Book on Steel and Steel Products (Fasteners, Seamless Tubes, Casting, Rolling of flat Products & others) ..... 1625/-
- The Complete Book on Ferroalloys (Ferro Manganese, Ferro Molybdenum, Ferro Niobium, Ferro Boron, Ferro Titanium, Ferro Tungsten, Ferro Silicon, Ferro Nickel, Ferro Chrome) ..... 2775/-
- Steel and Iron Handbook ..... 1775/-
- Handbook on Steel Bars, Wires, Tubes, Pipes, S.S. Sheets Production with Ferrous Metal Casting & Processing ..... 1775/-
- The Complete Book on Production of Automobile Components & Allied Products ( Engine Parts, Piston, Pin, Piston Ring, Valve, Control Cable, Engine Mounting, Auto Lock, Disc Brake, Drum, Gear, Leaf Spring, Shock Absorber, Silencer, Chain, Cylinder Block, Chassis, Battery, Tyre & Flaps) ..... 2275/-

### FORMULARY (FORMULATION) BOOKS

- Selected Formulary Book on Cosmetics, Drugs, Cleaners, Soaps and Detergents (2nd Revised Edition) ..... 1475/-
- Selected Formulary Book on Inks, Paints, Lacquers, Varnishes and Enamels ..... 1475/-
- Selected Formulary Handbook ..... 1475/-
- Selected Formulary Book on Petroleum, Lubricants, Fats, Polishes, Glass, Ceramics, Nitrogenous Fertilizers, Emulsions, Leather and Insecticides ..... 2275/-

### CONSTRUCTION MATERIALS, CEMENT, BRICKS, ASBESTOS

- The Complete Book on Construction Materials ..... 1475/-
- The Complete Technology Book on Bricks, Cement and Asbestos ..... 1400/-
- The Complete Technology Book on Asbestos, Cement, Ceramics and Limestone ..... 1875/-
- Handbook on Gypsum and Gypsum based Products (Mining, Processing, Transportation, Handling & Storage, Gypsum Board, Plaster of Paris with Machinery & Equipment Details) ..... 2275/-
- The Complete Book on Cement & Concrete Products Manufacturing (AAC Blocks, Slag & High Alumina Cement, Clinker, Concrete Block, Floor Slab, Roof Tiles, Interlocking Paving Blocks, Fly Ash Bricks, Flooring Tiles, Precast RCC Wall, Prestressed Concrete Beams, Poles, Pipe, Sleeper, RCC Beam, Ready Mix Concrete and Wall Putty with Manufacturing Process, Machinery Equipment Details and Factory Layouts) ..... 1975/-

### EMULSIFIERS, OLEORESINS AND TALL OIL

- The Complete Book on Emulsifiers with Uses, Formulae and Processes. (2nd Rev. Edn.) ..... 1400/-
- Handbook on Oleoresin and Pine Chemicals (Rosin, Terpene, Derivatives, Tall Oil, Resin & Dimer Acids) ..... 2200/-
- Handbook on Tall Oil Rosin Production, Processing and Utilization ..... 1575/-

### COLD STORAGE, COLD CHAIN & WAREHOUSE

- The Complete Book on Cold Storage, Cold Chain & Warehouse (with Controlled Atmosphere Storage & Rural Godowns) 6th Rev. Edn. .... 1750/-

NAME OF BOOKS	₹
<b>BATTERY ASSEMBLING AND RECYCLING</b>	
• Handbook on Production, Recycling of Lithium Ion and Lead-Acid Batteries (with Manufacturing Process, Machinery Equipment Details & Plant Layout) (2nd Rev. Edn.) .....	2999/-
<b>RENEWABLE ENERGY AND SOLAR PRODUCTS</b>	
• Solar PV Power and Solar Products Handbook (Solar Energy, Solar Lighting, Solar Power Plant, Solar Panel Solar Pump, Solar Photovoltaic Cell, Solar Inverter, Solar Thermal Power Plant, Solar Farm, Solar Cell Modules with Manufacturing Process, Equipment Details, Plant Layout & Process Flow Chart) .....	2275/-
<b>ELECTRIC VEHICLES MANURING, E- CAR, ELECTRIC BICYCLE, E- SCOOTER, E-MOTORCYCLE, ELECTRIC RICKSHAW, E- BUS, ELECTRIC TRUCK, E MOBILITY, EV INDUSTRY, AUTOMOBILE, LIGHT ELECTRIC VEHICLES, ELECTRIC VEHICLE INDUSTRY</b>	
• Handbook on Electric Vehicles Manufacturing (E- Car, Electric Bicycle, E- Scooter, E-Motorcycle, Electric Rickshaw, E- Bus, Electric Truck with Assembly Process Machinery Equipments & Layout) 2nd Rev. Edition .....	3795/-
<b>ELECTRICAL CABLE, WIRE AND WIRE PRODUCTS</b>	
• Manufacture of Electrical Cables, Wire and Wire Products Handbook (Copper Wire, Barbed Wire, Spring, Wire Nail, Wire Mesh, Fiber-Optic Cable, PVC Wire and Cable, Aluminum Wire, Steel Wire Rope, Galvanised Wire, Coaxial Cable, Litang Cable LAN/Ethernet Cable, Power Cord Cable, Submersible Cable, XLPE Cable with Machinery Equipment Details & Factory Layout) .....	2575/-

# Limited Edition—only photostat copy available

NAME OF BOOKS	₹
<b>ALCOHOLIC, NON-ALCOHOLIC, BEVERAGES, WINE &amp; INDUSTRIAL ALCOHOL</b>	
• The Complete Technology Book on Alcoholic and Non- Alcoholic Beverages (Fruit Juices, Sugarcane Juice, Whisky, Beer, Microbrewery, Rum and Wine) 2nd Revised Edition .....	2275/-
• The Complete Book on Wine Production .....	2275/-
• Industrial Alcohol Technology Handbook .....	1675/-
• Manufacture of Food & Beverages (2nd Edn.) # .....	1895/-
<b>TOYS INDUSTRY</b>	
• Toy Manufacturing Handbook (Plastic, Silicone, Wooden, Rubber, Soft, Electronic, Magnetic, Metal / Die-Cast, Traditional Indian Toys Manufacturing Process, Quality controls and safety standards, Machinery Equipment details and Factory Layouts) .....	2295/-
<b>NIIR PROJECT CONSULTANCY SERVICES</b>	
AN ISO 9001:2015 CERTIFIED COMPANY	
106 E, Kamla Nagar, Delhi-110 007 (India).	
Tel. : 91-11- 23843955	
Mob.: + 91-9097075054, 8800733955	
Website : www.niir.org www.entrepreneurindia.co	
E-mail : info@niir.org , npcs.india@gmail.com	

In today's electrification-driven industrial ecosystem, Rare Earth Permanent Magnets (REPM) have become one of the most critical advanced materials powering next-generation technologies such as electric vehicles, wind turbines, robotics, aerospace systems, industrial automation, and high-efficiency motors. These magnets—primarily Neodymium-Iron-Boron (NdFeB) and Samarium-Cobalt (SmCo)—are among the strongest commercially available permanent magnets and are indispensable in clean energy and smart mobility solutions.

For industrial consultants like you at NPCS who are already working on advanced material projects such as NdFeB magnet plants and monocrystalline silicon units, this sector represents one of the most strategically aligned sunrise manufacturing opportunities for first-generation entrepreneurs.

**Why Startups Should Invest in Rare Earth Magnet Manufacturing**

India currently imports a major portion of its Rare Earth Permanent Magnet requirement despite possessing one of the largest rare earth reserves globally. This creates a massive supply gap and a strong business case for domestic manufacturing under the Make in India and Atmanirbhar Bharat initiatives.

With the rapid rise of:

- Electric Vehicles
- Wind Energy Systems
- Industrial Automation
- Consumer Electronics

# Rare Earth Permanent Magnet: A High-Growth Strategic Manufacturing Opportunity for Startups

- Defence & Aerospace Equipment

the demand for NdFeB magnets is increasing exponentially. Nearly 90% of modern electric vehicles use permanent magnet synchronous motors, each consuming up to 2.5 kg of rare earth magnets.

This demand is expected to exceed 35,000 metric tonnes from the EV sector alone by 2025, offering a long-term manufacturing opportunity for MSMEs and technology-driven startups.

**Market Size, Growth Trends and Industry Outlook**

The global Rare Earth Magnet market was valued at approximately USD 21.98 Billion in 2025 and is projected to reach nearly USD 30.01 Billion by 2030, growing at a CAGR of around 6.4%.

Further, the NdFeB permanent magnet segment alone is forecasted to grow from USD 32.66 Billion in 2025 to USD 59.74 Billion by 2034, driven by electric mobility and renewable energy deployment.

Asia-Pacific remains the fastest-growing region, with India projected to grow at nearly

5.6% CAGR, supported by expanding EV manufacturing and industrial motor demand.

Additionally, global demand for rare earth magnets is approaching 385,000 tonnes annually in 2025, largely driven by automotive electrification and clean energy installations.

**Export Potential and Business Scope**

Countries across Europe and North America are actively trying to reduce dependency on China, which controls nearly 90% of global rare earth magnet processing and production.

This geopolitical shift is creating strong export opportunities for emerging manufacturers from India in:

- EV traction motors
- Wind turbine generators
- Defence electronics
- Robotics and automation
- Data centers and smart appliances

Startups entering this sector can leverage export incentives, PLI schemes, and international OEM partnerships.

PROJECT COST ESTIMATE CAPACITY	
Rare Earth Permanent Magnet (NdFeB)	: 4,000 Kgs Per Day
Plant & Machinery	: ₹ 39,160 Lakhs
Cost of Project	: ₹ 93,874 Lakhs
Rate of Return	: 29%
Break Even Point	: 80%

# SELECTED BUSINESS IDEAS FOR RIGHT INVESTMENT

## EACH DETAILED PROJECT REPORT (BUSINESS PLAN) CONTAINS



AN ISO 9001 : 2015 CERTIFIED COMPANY



**Market Survey Cum Detailed Techno Economic Feasibility Reports**

**BEGINNING :** Project Introduction, Brief History of the Product, Properties, BIS (Bureau of Indian Standard) Specifications & Requirements, Uses & Applications.

**MARKET SURVEY :** Present Market Position, Expected Future Demand, Statistics of Imports & Exports, Export Prospect, Names and Addresses of Existing Units (Present Manufactures).

**PLANT & MACHINERY :** List of Plant & Machineries, Miscellaneous Items and Accessories, Instruments, Laboratory Equipments and Accessories, Plant Location, Electrification, Electric Load and Water, Maintenance, Suppliers/Manufacturers of Plant and Machineries.

**RAW MATERIAL :** List of Raw Materials, Properties of Raw Materials, Availability of Raw Materials, Required Quality of Raw Materials, Cost/Rates of Raw Materials.

**MANUFACTURING TECHNIQUES :** Formulae Detailed Process of Manufacture, Flow Sheet Diagram.

**PERSONNEL REQUIREMENTS :** Requirement of Staff & Labour, Personnel Management, Skilled & Unskilled Labour.

**LAND & BUILDING :** Requirement of Land Area, Rates of the Land, Built up Area, Construction Schedule, Plant Layout.

**FINANCIAL ASPECTS :** Cost of Raw Materials, Cost of Land & Building, Cost of Plant & Machineries, Fixed Capital Investment, Working Capital, Project Cost, Capital Formation, Cost of Production, Profitability Analysis, Break Even Point, Cash Flow Statement for 5 to 10 Years, Depreciation Chart, Conclusion, Projected Balance Sheet, Land Man Ratio.

- Prepared by highly qualified and experienced consultants and Market Research and Analyst Supported by a panel of experts and computerised data bank.
- Data provided are reliable and upto date collected from suppliers/manufacturers, plants already commissioned in India.
- NPCS Reports are very economical and immediately available on demand where as commissioned Feasibility Studies are time consuming and costly.

**FOR ASSESSING MARKET POTENTIAL, INVESTMENT DECISION MAKING CORPORATE DIVERSIFICATION PLANNING ETC.**

**NPCS Engineers and Consultants have prepared Market Survey Cum Detailed Techno Economic Feasibility Report on the following products which are most viable and profitable.**

## "Million-Dollar Business Ideas: 1.25 - 1.50 Crore (Plant and Machinery) : Based Projects for Aspiring Entrepreneurs: Curated Project Profiles"



- » 3 Star Hotel with 2 Banquet Hall & Restaurant
- » Activated Carbon from Bamboo
- » Activated Carbon from Coconut Shell
- » Alloy Wheels for 2 Wheelers
- » Aluminium Cans for Brewery Industry
- » Ayurvedic /Herbal Hand Sanitizer
- » Baby Wet Wipes and Facial Wet Tissues
- » Biodegradable Plastic Pellets • Corn Starch Thermoplastic & Polyvinyl Alcohol •PBAT & Corn Starch Thermoplastic •PLA + PBAT + Corn Starch Thermoplastic •PLA + PBAT + Caco3
- » Biodegradable Plastic Products (Bags, Plates & Glasses)



- » Cattle Farming (500 Cows)
- » Charcoal from Biomass
- » Chilli Powder, Chilli Flakes & Chilli Oil
- » Coconut Oil from Copra
- » Concentrated Manganese Ore
- » Copper Cathode from Copper Scrap
- » Curcumin Extraction Unit
- » Curcumin from Turmeric
- » Dal Mill (Pulses)
- » Disposable Plastic Syringes
- » Dry Fruits Processing (for Snack, Almond, Pistachio and Cashew Nut)



- » Dry Lemon Powder and Lemon Oil
- » E-waste Recycling Plant
- » Fatty Alcohol
- » Ferro Molybdenum
- » Ferro Vanadium
- » Fire Clay Bricks
- » Fruit Wine
- » Furfural from Bagasse and Corncobs
- » Hand Sanitizer Manufacturing
- » HDPE Pipes
- » Hemodialysis Blood Tubing
- » Plastic Waste Recycling Plant



**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

**NIIR PROJECT CONSULTANCY SERVICES**

AN ISO 9001:2015 CERTIFIED COMPANY

106 E, Kamla Nagar, Delhi-110 007 (India). Tel. : 91-11- 23843955

Mob.: +91-9097075054 • 8800733955

Website : [www.niir.org](http://www.niir.org) • [www.entrepreneurindia.co](http://www.entrepreneurindia.co) • E-mail : [info@niir.org](mailto:info@niir.org) • [npcs.india@gmail.com](mailto:npcs.india@gmail.com)

# SELECTED BUSINESS IDEAS FOR RIGHT INVESTMENT

- » Industrial Gases
- » Integrated Unit (Herbal Hair Oils, Herbal Cosmetic, Ayurvedic Pharmacy)
- » JCB Bucket Pin and JCB Tooth Nuts, Bolt and Pin Bush
- » Jute Bags, Jute Sacks, Gunny Bags
- » LPG Bottling Plant
- » Macaroni
- » Macaroni, Spaghetti, Vermicelli and Noodles
- » Magnesium Sulphate (Fertiliser Grade)
- » Collagen Powder
- » Manufacturing of Disposable Personal Protective Equipment (PPE) Kit
- » Medical Disposables: Disposable Syringes (Self Destructive) with Needles, Catheters and Mask
- » Menthol Crystal from Mentha Oil
- » Metal Cutting Wheels (TMT Bar Cutting)
- » Peanut Butter
- » Plastic Waste Recycling Plant
- » Porcelain Insulator



- » Potato Flakes
- » Potato Flakes and Pellets
- » Potato Powder
- » Potato Powder, Flakes and Pellets
- » Pouch Packing Automatic Plant -Flexible Packaging (Namkeen, Spice, Mehandi, Milk, Ghee and Zipped Pouches)
- » Pre-mix and Animal Feed (Poultry and Cattle)
- » Prestressed Concrete Sleepers
- » Production of Artemisinin from Artemisia Annuua Plant
- » Latex & Nitrile Gloves
- » Tomato Puree and Fruit Concentrate with Hot Break Process
- » Protein Bar
- » Reduction of Manganese Dioxide to Manganese Oxide 42% (by Rotary Kiln)
- » Roller Flour Mill (Atta, Maida & Suji)
- » Rose Plantation & Rose Oil Extraction
- » Sanitary Napkins



- » Activated Charcoal from Bamboo
- » Spices (Turmeric, Chilli & Masala Powder)
- » Lithium Ion Battery (Battery Assembly)
- » Latex Rubber Thread Manufacturing Plant
- » Surgical Blade & Disposable Scalpel
- » Talc from Talc Ore (Cosmetic Grade)
- » Toughened Glass (Tempered Glass) Toughened Glass
- » UPVC Pipes
- » UPVC Profiles for Doors and Windows
- » Virgin Coconut Oil
- » Wheat Flour Mill (Atta, Maida & Suji)
- » Wood Plastic Composite (WPC)
- » Workwear, Uniform Clothing for Factory (Trousers & High Visibility Long Sleeves Jackets)
- » Yeast from Molasses
- » Zinc Chloride
- » Zinc Oxide from Zinc Dross
- » Zinc Sulphate
- » Zinc Sulphate (33%, 21% & 12%)



## Start Investing in Fastest Growing Industries

In the world of infrastructure, construction, packaging, carpentry, furniture, and fabrication, one small product silently holds everything together — the wire nail. Despite being a low-cost fastening material, wire nails are indispensable across multiple sectors including real estate, wooden furniture manufacturing, logistics packaging, automobile body building, and electrical installations. For startup founders and first-time manufacturing entrepreneurs looking for a stable, low-risk industrial venture, wire nail manufacturing presents a highly practical and investment-friendly opportunity.

### Market Size, Demand Outlook and Industry Trends

The demand for wire nails is closely tied to the growth of construction and infrastructure development. The global construction nails market was valued at approximately USD 10.70 billion in 2023 and is expected to reach nearly USD 14.71 billion by 2030, growing at a CAGR of about 4.7%.

In India, the construction nails market is projected to grow from USD 684 million in 2025 to USD 937 million, expanding at an annual growth rate of nearly 8%, driven by rapid urbanization and rising residential and commercial building activities.

Industry estimates further suggest that India's wire nail segment may reach around ₹ 7,800 crore by 2025, reflecting consistent demand from infrastructure projects and housing development schemes such as PMAY and Smart Cities Mission.

Globally, the broader nail fastener market was valued at nearly USD 21.5 billion in 2024

# Wire Nail Manufacturing: A Smart Entry-Level Industry for Startup Entrepreneurs

and is forecasted to touch USD 29.8 billion by 2032, demonstrating steady long-term industrial consumption.

This sustained growth is being fuelled by:

- Real estate expansion
- Growth of modular furniture manufacturing
- Industrial packaging demand
- Rapid development of logistics infrastructure
- Government spending on roads, railways, and housing

Asia-Pacific already accounts for nearly 42.9% share of the global construction nails market, making India a strong production and export hub for this product.

### Why Startups Should Invest in Wire Nail Manufacturing

For MSME promoters and startup founders — especially those whom you, Mr. Ajay Gupta,

regularly guide through NPCS DPRs — this industry offers multiple entry advantages:

- Low capital investment compared to heavy engineering projects
- Continuous and non-seasonal market demand
- Easy availability of raw material (MS wire rod)
- Scope for local as well as export-oriented sales
- Short gestation period and quick return on investment
- Highly scalable production capacity

Additionally, the Indian wire nail sector is largely fragmented with significant participation from small and medium enterprises, leaving ample room for new entrants to establish regional brands.

### Export Potential

India is actively exporting steel wire nails and collation nails to countries like the United States and Middle East markets, indicating stable overseas demand for quality fasteners.

With competitive labour costs and improving trade agreements, Indian manufacturers can effectively cater to global construction markets where standardized fastening solutions are in continuous demand.

### PROJECT COST ESTIMATE CAPACITY

Wire Nail	: 4,000 Kgs Per Day
Plant & Machinery	: ₹ 27 Lakhs
Cost of Project	: ₹ 141 Lakhs
Rate of Return	: 30%
Break Even Point	: 70%

Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :

**NIIR PROJECT CONSULTANCY SERVICES**

AN ISO 9001:2015 CERTIFIED COMPANY

106 E, Kamla Nagar, Delhi-110 007 (India). Tel. : 91-11- 23843955

Mob.: +91-9097075054 • 8800733955

Website : www.niir.org • www.entrepreneurindia.co • E-mail : info@niir.org • npc.s.india@gmail.com

# Light and Heavy Paraffin Oil Manufacturing: A Profitable Petrochemical Opportunity for Startups and MSME Entrepreneurs

**L**ight Liquid Paraffin (LLP) and Heavy Liquid Paraffin (HLP), commonly known as pharmaceutical or technical white oils, are highly refined mineral oils derived from petroleum fractions. These oils are colorless, odorless, chemically stable, and non-toxic, which makes them indispensable across industries such as personal care, medicine, food-grade lubricants, packaging, agriculture sprays, and polymer processing.

The rising consumption of cosmetics, dermatological creams, laxatives, food-safe lubricants, and plastic processing aids has led to sustained growth in the paraffin oil segment worldwide.

### Market Size, Demand Trends & Growth Outlook

The global liquid paraffin market was valued at around USD 2.19 Billion in 2024 and is projected to reach nearly USD 3.2 Billion by 2035, growing at a CAGR of approximately 3.5% during the forecast period.

Light Liquid Paraffin dominates the product segment with nearly 61% market share, mainly due to its wide-scale use in pharmaceuticals and personal care formulations such as creams, ointments, baby oils, and cosmetic lotions.

Additionally, the global light liquid paraffin

market alone is projected to grow from USD 2.3 Billion in 2023 to USD 3.8 Billion by 2032, indicating expanding applications across industrial and healthcare sectors.

Pharmaceuticals accounted for nearly 34% of total application share in 2024 owing to increasing demand for high-purity excipients in medicinal formulations.

With India being a major exporter of cosmetic and pharmaceutical products, demand for pharmaceutical-grade white oil is expected to grow steadily in both domestic and export markets including Southeast Asia, Middle East, and Africa.

### Why Entrepreneurs Should Invest in Paraffin Oil Manufacturing

For startup founders evaluating chemical manufacturing opportunities under India's expanding MSME ecosystem, paraffin oil production offers several practical advantages:

- Consistent demand from FMCG, pharma, and plastic industries
- Relatively stable raw material availability from base oil refineries
- Export-friendly product with BIS/USP/BP grade compliance
- Low perishability and long shelf life

- Multiple grades catering to diversified industry segments
- Scalable manufacturing process

This project aligns well with the type of downstream petrochemical units NPCS typically recommends for investors looking to enter value-added refinery product manufacturing with moderate capital investment.

### Export Potential

Pharma-grade LLP and HLP are widely exported to regulated markets where demand for USP/BP-compliant white oils is increasing due to the expansion of personal care and healthcare manufacturing units. Middle East and African countries are particularly dependent on imports of refined white oils for domestic pharmaceutical manufacturing.

### PROJECT COST ESTIMATE

#### CAPACITY:

*Light Liquid Paraffin Oil* : 3,333.4 Kg. Per Day

*Heavy Liquid Paraffin Oil* : 2,666.6 Kg. Per Day

**Plant & Machinery** : ₹ 287 Lakhs

**Cost of Project** : ₹ 679 Lakhs

**Rate of Return** : 28%

**Break Even Point** : 48%

## Set up Mini Steel Plant (Billets and TMT Bar)

### Uses and Applications

Some of the most common uses include: cutting rebar, angle iron, square tubing, pipe, and flat stock; as well as punching holes in steel plate. The mini steel plant can also be used to shear plate and bar stock, and to create custom shapes from sheet metal. These products have a wide range of applications including: Construction, Manufacturing, and Automotive.

### Indian Market

The global steel market size is expected to reach USD 1.01 trillion by 2025, at a registering a CAGR of 2.6% over the forecast period. Growing inclination of contractors towards sustainable, low cost and durable building materials is driving steel demand in upcoming residential projects & industrial infrastructure.

**A** mini steel plant is a smaller version of an integrated steel mill, which produces and processes iron and steel. The mini steel plant is a new concept in the steel industry, and has been gaining popularity in recent years due to its lower investment costs and flexibility.

### PROJECT COST ESTIMATE

#### CAPACITY:

*Steel Billets* : 150 MT Per Day

*(Size 100mm x 100mm to 180mm x 180 mm Sections of Max. 6 meter length)*

*TMT Steel Bars (Rebar)* : 150 MT Per Day

**Plant & Machinery** : ₹ 5445 Lakhs

**Cost of Project** : ₹ 10417 Lakhs

**Rate of Return** : 28%

**Break Even Point** : 37%

## Manufacturing Business Plan for Zinc Ingots

**Z**inc ingot is a white or gray color pure zinc metal, which is cast into a block or bar that is suitable for further processing of metal. The zinc ingot is produced using solid-state, crystallization, and ultra-high purification processes including sublimation.

### Uses and Applications

Zinc oxide is widely used in the manufacture of very many products such as paints, rubber, cosmetics,

pharmaceuticals, plastics, inks, soaps, batteries, textiles and electrical equipment. Some application Galvanizing, Zinc Oxide, Die Castings, Alloys

### Industries

The rising demand for zinc ingots in the hot-dip galvanization steel will fuel the market growth. In the process of hot-dip galvanization, the steel objects are dipped in pool of the molten zinc ingots, so that the melted zinc ingots can be applied to all exposed surface of steel.

### Indian Market

The rising demand for zinc ingots in the hot-dip galvanization steel will fuel the market growth.

In the process of hot-dip galvanization, the steel objects are dipped in pool of the molten zinc ingots, so that the melted zinc ingots can be applied to all exposed surface of steel.

### PROJECT COST ESTIMATE

#### CAPACITY

**Zinc Ingots (Purity 98%)** : 6 MT Per Day

**Plant & Machinery** : ₹ 124 Lakhs

**Cost of Project** : ₹ 863 Lakhs

**Rate of Return** : 29%

**Break Even Point** : 65%

**A**s India steadily moves toward banning single-use plastics and encouraging sustainable alternatives, paper-based liquid packaging has emerged as one of the most promising next-generation manufacturing opportunities for startups and MSMEs. Paper water bottles, made from moulded pulp with biodegradable inner barrier coatings, are increasingly being adopted by beverage brands, cosmetic companies, and pharmaceutical manufacturers as an eco-friendly replacement for conventional PET bottles.

From a startup investment perspective, this is not merely a packaging innovation—it is a rapidly expanding global industry supported by government regulations, consumer demand for sustainability, and corporate ESG commitments.

The global paper bottle market was valued at approximately USD 76–78 million in 2024–2025 and is expected to surpass USD 127–135 million by 2033–2035, growing at a CAGR of around 5–6.5%.

This growth is driven by increasing consumer

**PROJECT COST ESTIMATE CAPACITY**

<b>Paper Water Bottle (1 Ltr. Size)</b>	<b>: 12,000 Nos. Per Day</b>
<b>Plant &amp; Machinery</b>	<b>: ₹ 88 Lakhs</b>
<b>Cost of Project</b>	<b>: ₹ 285 Lakhs</b>
<b>Rate of Return</b>	<b>: 28%</b>
<b>Break Even Point</b>	<b>: 58%</b>

**Paper Water Bottles: A Future-Ready Manufacturing Opportunity for Startups**

preference for recyclable packaging, plastic reduction mandates across Europe and Asia-Pacific, and rising investments in biodegradable packaging technologies.

Asia-Pacific, including India, is expected to be one of the fastest-growing regions due to urbanization, stricter plastic waste regulations, and expanding beverage consumption.

**Why Startups Should Invest in Paper Bottle Manufacturing**

For entrepreneurs associated with industrial consultancy platforms like NPCS and Entrepreneur India, this segment aligns perfectly with current market trends and government policy direction toward sustainable manufacturing.

Some compelling reasons for investment include:

- Growing demand from bottled water, dairy drinks, juices, cosmetics, and pharma industries
- Export potential to Europe and North America where plastic bans are stricter
- Lightweight packaging reducing logistics and carbon footprint
- Increasing corporate adoption of circular economy packaging
- Availability of pulp-based raw materials in India

With India's sustainable packaging ecosystem expanding rapidly, paper water bottles offer startups an opportunity to enter a niche but high-growth manufacturing sector with long-term global demand.

**Major Players in Paper Bottle Technology**

Globally, several companies are actively developing and commercializing paper-based liquid packaging solutions, including:

- Pulpex Limited
- Frugalpac Limited
- Tetra Pak International S.A
- PAPAACKS Sales GmbH
- Rypax
- Carlsberg Group
- Diageo PLC
- Unilever PLC
- The Absolut Company

**N**icotine is a chemical compound that is naturally present in the leaves of the tobacco plant. It is a powerful stimulant and is primarily known for its addictive properties, as it is the main addictive component of tobacco products. When tobacco is burned or consumed, nicotine is released and quickly absorbed into the bloodstream. Nicotine is a colorless liquid that turns brown when exposed to air. It has a distinctive odor and taste, which is often described as bitter. It acts as a stimulant, increasing heart rate and blood pressure, while also promoting the release of dopamine in the brain, resulting in pleasurable sensations.

**Uses and Applications of Nicotine**

- Neurological Research
- Cognitive Disorders
- Pest Control
- Nicotine Replacement Products
- Research and Medicine

**Why Should Start Extraction from Tobacco Waste Business?**

• **Diversification of Income Streams:** The extraction industry allows entrepreneurs to diversify their income sources. By utilizing tobacco waste, you can create additional revenue streams alongside existing businesses or investments.

• **Resource Utilization:** Tobacco waste is a

**Setup Plant of Extraction from Tobacco Waste**

byproduct of the tobacco industry. By extracting valuable compounds from this waste, you contribute to resource efficiency and reduce environmental impact.

• **Market Demand:** There is a growing demand for tobacco-derived compounds such as nicotine, which is used in various industries, including pharmaceuticals, e-cigarettes, and the agriculture sector. Meeting this demand can be a profitable venture.

• **Pharmaceutical Applications:** Nicotine extracted from tobacco waste has applications in the pharmaceutical industry, particularly in smoking cessation products and nicotine replacement therapies.

• **E-Cigarette Industry:** The e-cigarette industry relies on nicotine, and by providing a sustainable and cost-effective source of nicotine, you can tap into this rapidly growing market.

**Global Market Outlook**

The global nicotine market size is expected to be USD 375.22 million in 2022, as per our research, the

market is expected to reach USD 1,244.06 million by 2031, exhibiting a CAGR of 12.72% during the forecast period. The global nicotine market is a dynamic and rapidly growing industry that revolves around the production and distribution of nicotine, a highly addictive chemical compound derived from tobacco plants. Nicotine is primarily used in the manufacturing of various tobacco products, including cigarettes, e-cigarettes, and smokeless tobacco. The nicotine market encompasses the production, extraction, and supply of nicotine in various forms, such as liquid nicotine, nicotine gums, nicotine patches, and nicotine inhalers. The growing preference for oral tobacco-free products as compared to flammable cigarettes is driving the regional nicotine market growth.

**Conclusion**

Starting a nicotine extraction business from tobacco waste not only promises significant financial gains but also allows entrepreneurs to make a positive impact on the environment and public health. It is a win-win situation

for both business success and sustainability.

**PROJECT COST ESTIMATE**

<b>CAPACITY:</b>	
<b>Nicotine 10ml bottle each</b>	<b>: 5,000 Bottles Per Day</b>
<b>Nicotine 50ml bottle each</b>	<b>: 1,300 Bottles Per Day</b>
<b>Nicotine 100ml bottle each</b>	<b>: 650 Bottles Per Day</b>
<b>Nicotine 250ml bottle each</b>	<b>: 260 Bottles Per Day</b>
<b>Nicotine 500ml bottle each</b>	<b>: 170 Bottles Per Day</b>
<b>Nicotine 1000ml bottle each</b>	<b>: 85 Bottles Per Day</b>
<b>Plant &amp; Machinery</b>	<b>: ₹ 289 Lakhs</b>
<b>Rate of Return</b>	<b>: 35%</b>
<b>Break Even Point</b>	<b>: 32%</b>

**SUBSCRIPTION RATE FOR INDIA - One Year ₹ 1060/- (with Delivery Charges)**

**OWNER, PUBLISHER, PRINTER & EDITOR : AJAY KUMAR GUPTA Printed at M/s. Balaji Offset Printers, 315/21, Daya Basti, Delhi 110 035 PUBLISHED AT : 106 E, Kamla Nagar, Delhi-110 007 (India).**

**R.N.I. NO. 61509/95**

**DATE OF PUBLICATION : 19 EVERY MONTH**