

# NIIR PROJECT CONSULTANCY SERVICES

Asia's Leading Industrial Knowledge Ecosystem

## CLIENT CASE STUDY

# Manufacturing of Biodegradable Disposable Cups & Plates

*Transforming Sustainability into Scalable Industrial Opportunity*

<b>CLIENT</b> <b>M/s. Badri Cotsyn Limited</b> Bhopal, Madhya Pradesh	<b>INDUSTRY</b> <b>Sustainable Manufacturing</b> Eco-Friendly Packaging	<b>STATUS</b> <b>Implementation Approved</b> Client Proceeding
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## 01 ABOUT NPCS

### Company Overview

Niir Project Consultancy Services (NPCS) is one of Asia's most respected industrial consultancy organisations, specialising in techno-economic feasibility studies, detailed project reports (DPRs), market research, and engineering advisory services. With over three decades of uninterrupted service, NPCS has built a reputation for delivering bankable, research-driven project reports that empower entrepreneurs, MSMEs, startups, and large-scale investors to make confident manufacturing and business investment decisions.

*"NPCS is part of Asia's leading industrial knowledge ecosystem with thousands of project profiles and global consulting expertise."*

### Core Services

 <b>Detailed Project Reports (DPR)</b>	 <b>Techno-Economic Feasibility Studies</b>	 <b>Market Research &amp; Demand Analysis</b>	 <b>Engineering Advisory Services</b>
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### Authority & Track Record

 <b>30,000+</b> <b>Project Reports Published</b> <small>Across all sectors</small>	 <b>50+</b> <b>Countries Served</b> <small>Global consulting reach</small>	 <b>30+</b> <b>Years of Expertise</b> <small>Since 1990s</small>	 <b>250,000+</b> <b>Industrial Projects</b> <small>Delivered worldwide</small>
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## 02 PROJECT SNAPSHOT

<b>Client Name</b>	M/s. Badri Cotsyn Limited
<b>Location</b>	Bhopal, Madhya Pradesh, India
<b>Industry Sector</b>	Large-Scale Sustainable Manufacturing
<b>Project Recommended</b>	Manufacturing of Biodegradable Disposable Cups & Plates
<b>Consultancy Provided</b>	Techno-Economic Feasibility Study   DPR   Market Assessment   Financial Viability Analysis   Strategic Advisory
<b>Implementation Status</b>	Client Has Agreed to Proceed with Full Project Implementation
<b>Consulting Partner</b>	Niir Project Consultancy Services (NPCS)

## 03 CLIENT OVERVIEW

### About M/s. Badri Cotsyn Limited

M/s. Badri Cotsyn Limited is a forward-thinking industrial investment company based in Bhopal, Madhya Pradesh. With a mandate for strategically sound and sustainability-aligned manufacturing investments, the company sought expert consultancy guidance to identify a high-potential, future-ready manufacturing opportunity that could deliver long-term profitability and commercial resilience.

### Client's Investment Objectives

The client approached NPCS with a clearly defined set of strategic investment criteria:

- Long-term profitability and sustainable revenue generation
- Strong and growing market demand with future commercial relevance
- Alignment with environmental sustainability trends and regulatory frameworks
- Access to regionally available raw materials and supply chain networks
- Moderate-to-large scale investment feasibility with phased expansion potential
- Scalable operations with diversification opportunities
- Technically feasible and commercially bankable project structure

## 04 CHALLENGES & MARKET GAPS ADDRESSED

Before engaging NPCS, M/s. Badri Cotsyn Limited faced a complex set of investment-planning challenges typical of large-scale industrial decision-making. NPCS was tasked with bridging these critical gaps:

### Market & Demand Uncertainty

Identifying manufacturing segments with proven, growing demand while avoiding saturation and short-term market cycles required deep, structured market analysis.

### Technical Feasibility Gaps

Understanding appropriate manufacturing technologies, plant configurations, raw material sourcing, and operational setup required expert engineering insights not available internally.

### Financial Risk Assessment

Evaluating investment sizing, capital expenditure, working capital needs, and long-term financial viability required structured financial modelling and industry benchmarking.

### Regulatory & Compliance Complexity

Navigating environmental regulations, plastic ban legislation, and state-level manufacturing compliance required regulatory intelligence and policy analysis.

### Supply Chain Evaluation

Assessing regional raw material availability, supplier ecosystem quality, and procurement logistics was critical for operational feasibility and cost optimisation.

### Strategic Direction

The client required professional advisory support to build investment confidence, validate project viability, and establish a clear path from idea to execution.

## 05 NPCS APPROACH & STRATEGIC METHODOLOGY

NPCS deployed a rigorous, research-driven five-stage advisory methodology to deliver a comprehensive assessment for M/s. Badri Cotsyn Limited:

<b>01</b>	<b>Opportunity Identification</b>	Systematic evaluation of manufacturing sectors aligned with client objectives, sustainability trends, regional resource availability, and investor-grade commercial potential.
<b>02</b>	<b>Market Analysis</b>	Comprehensive demand mapping, competitive landscape review, regulatory environment assessment, import-substitution potential, and long-term sector growth evaluation.
<b>03</b>	<b>Technical Feasibility</b>	Manufacturing process review, technology selection, plant and machinery specifications, raw material analysis, utility requirements, and production capacity assessment.
<b>04</b>	<b>Financial Modelling</b>	Total project cost estimation, capital expenditure planning, revenue projections, profitability analysis, break-even assessment, and financial viability benchmarking.
<b>05</b>	<b>Implementation Strategy</b>	Phased implementation roadmap, procurement planning, licensing requirements, infrastructure setup guidance, and operational readiness framework.

### Why the Biodegradable Product Sector Was Selected

Following NPCS's structured evaluation, the Manufacturing of Biodegradable Disposable Cups & Plates emerged as the strongest recommendation based on five key strategic factors:

- ✓ Favorable raw material availability across Madhya Pradesh's agricultural ecosystem
- ✓ Strong and accelerating demand from food service, hospitality, institutional, and retail sectors
- ✓ Long-term operational sustainability driven by the global shift away from single-use plastics
- ✓ Moderate-to-large capital investment feasibility with clear phased expansion opportunities
- ✓ Robust institutional procurement growth from hospitals, schools, corporate offices, and government bodies

## 06 SCOPE OF SERVICES DELIVERED

NPCS delivered a comprehensive end-to-end consulting engagement, covering every critical dimension required for informed manufacturing investment decision-making:

<p><b>Manufacturing Opportunity Identification</b> Structured identification of a manufacturing venture aligned with sustainability trends, market demand, and the client's investment objectives.</p>	<p><b>Detailed Project Report (DPR)</b> Preparation of a comprehensive, bankable project report encompassing technical, financial, market, and operational dimensions.</p>
<p><b>Market Potential &amp; Demand Assessment</b> In-depth analysis of domestic and international market dynamics, demand patterns, growth projections, and sector opportunities.</p> <p><b>Plant Layout &amp; Machinery Selection</b> Recommendations on optimal plant configuration, machinery specifications, production line setup, and technology adoption.</p>	<p><b>Raw Material Availability Analysis</b> Assessment of sourcing feasibility, supplier ecosystem, procurement logistics, and regional supply chain advantages.</p> <p><b>Technical Feasibility Insights</b> Evaluation of manufacturing technologies, production workflows, energy and utility requirements, and operational practicality.</p>
<p><b>Financial Viability Evaluation</b> Assessment of capital costs, revenue potential, profitability indicators, break-even analysis, and long-term commercial sustainability.</p>	<p><b>Implementation Planning &amp; Roadmap</b> Strategic guidance for phased project execution, licensing, infrastructure, and operational readiness milestones.</p>

## 07 PROJECT EXECUTION & TIMELINE

### Phase-Wise Execution Roadmap

Phase 1 Initiation	Phase 2 Research	Phase 3 Feasibility	Phase 4 Financial Modelling	Phase 5 Delivery & Advisory
Client brief, investment objective mapping, scope definition	Market sizing, demand analysis, regulatory landscape review	Technology shortlisting, plant design, raw material assessment	CAPEX/OPEX modeling, profitability projection, break-even	DPR presentation, strategic advisory, implementation roadmap

### Key Milestones

- Client brief and investment objective documentation completed
- Sector screening and opportunity identification finalised
- Comprehensive market and demand analysis delivered
- Technical feasibility and plant design assessment completed
- Financial model and investment viability report prepared
- Detailed Project Report (DPR) submitted and presented to client
- Client strategic advisory sessions conducted
- Client confirmed decision to proceed with project implementation

## 08 TECHNICAL INSIGHTS

### Manufacturing Process Overview

The manufacturing of biodegradable disposable cups and plates involves a structured, environment-friendly production process using sustainable raw materials:

#### Step 1: Raw Material Procurement

Sourcing of agricultural residues (sugarcane bagasse, wheat straw, areca palm leaf), starch-based bio-polymers, or recycled paper pulp — abundantly available in Madhya Pradesh.

#### Step 2: Pulping & Preparation

Raw materials are cleaned, soaked, and processed into homogeneous pulp or sheet stock. Material consistency is critical for final product quality and strength.

#### Step 3: Forming & Moulding

Hydraulic hot-press moulding machines shape the material into cups and plates of specified dimensions. Temperature and pressure parameters are precisely controlled.

#### Step 4: Drying & Curing

Formed products are dried using industrial tunnel dryers or curing ovens to achieve required structural integrity and moisture content standards.

#### Step 5: Trimming & Finishing

Products are trimmed, inspected, and surface-finished. Optional coating with food-grade biodegradable materials enhances liquid resistance and shelf life.

#### Step 6: Quality Control

Comprehensive quality testing for dimensional accuracy, load-bearing capacity, leak resistance, and biodegradability standards compliance.

#### Step 7: Packaging & Dispatch

Finished products are stacked, counted, and packaged in bulk or retail packs for distribution to institutional buyers, retailers, and export customers.

### Key Plant & Machinery

#### Core Production Equipment:

- Hydraulic hot-press moulding machines
- Industrial pulping and preparation systems
- Tunnel dryers / industrial curing ovens
- Automatic trimming and cutting machinery

#### Quality & Support Systems:

- Food-grade coating applicators
- Packaging and stacking automation units
- Quality testing and inspection equipment
- Material handling and storage systems

## 09 FINANCIAL & MARKET ANALYSIS

### Investment Overview

NPCS conducted a structured financial viability evaluation covering all key cost and revenue dimensions of the proposed manufacturing unit:

<p><b>Land &amp; Civil Infrastructure</b> Site acquisition, construction, and facility preparation costs evaluated for Madhya Pradesh industrial zones.</p> <p><b>Raw Material Procurement</b> Sourcing costs for agricultural residues, biopolymers, and packaging inputs with regional supply chain advantages.</p> <p><b>Utility &amp; Operational Setup</b> Power, water, energy systems, and waste management infrastructure requirements assessed.</p>	<p><b>Plant &amp; Machinery Investment</b> Core production equipment, utilities, and ancillary machinery including installation and commissioning.</p> <p><b>Working Capital Requirements</b> Operational liquidity needs for the first 12 months of production ramp-up and market establishment.</p> <p><b>Production Scalability Potential</b> Phase-wise capacity expansion opportunities evaluated to support growing market demand.</p>
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### Key Financial Indicators (Assessed by NPCS)

<p><b>Encouraging</b> Return on Investment (ROI) <i>Assessed above industry benchmarks</i></p>	<p><b>Positive</b> Internal Rate of Return (IRR) <i>Favourable for large-scale investment</i></p>	<p><b>Viable</b> Payback Period <i>Within industry-acceptable range</i></p>
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### Market Growth Drivers

- Government ban on single-use plastics accelerating demand for biodegradable alternatives
- Rapid expansion of India's food delivery, hospitality, and catering industries
- Rising consumer environmental awareness and institutional procurement policies
- Growth in organised retail, airlines, railways, and corporate dining sectors
- Export opportunities to global markets with strong biodegradable packaging demand
- Import substitution potential as India reduces reliance on imported eco-packaging

## 10 RESULTS & OUTCOMES

### Business Impact Delivered

Through NPCS's structured consultancy engagement, M/s. Badri Cotsyn Limited achieved a series of measurable strategic and commercial outcomes:

<p><input type="checkbox"/> <b>Investment Clarity</b></p> <p>Client gained full clarity on project scope, investment sizing, and implementation requirements — eliminating ambiguity from the decision-making process.</p>	<p><input type="checkbox"/> <b>Market Intelligence</b></p> <p>Comprehensive demand and market analysis provided actionable insights into growth trajectories, customer segments, and competitive positioning.</p>
<p><input type="checkbox"/> <b>Technical Confidence</b></p> <p>Complete technical blueprint — including manufacturing process, plant design, and machinery selection — eliminated operational uncertainty.</p>	<p><input type="checkbox"/> <b>Financial Validation</b></p> <p>Structured financial viability assessment confirmed commercial sustainability and provided a bankable framework for investment approval.</p>
<p><input type="checkbox"/> <b>Sustainability Alignment</b></p> <p>Project positioned client at the forefront of India's sustainability transition, ensuring long-term market relevance and regulatory compliance.</p>	<p><input type="checkbox"/> <b>Implementation Confidence</b></p> <p>Client proceeded from evaluation to implementation planning — a testament to the quality and depth of NPCS's advisory support.</p>

### Strategic Positioning Achieved

- ✓ Entry into a rapidly growing, sustainability-driven manufacturing segment
- ✓ Long-term demand driven by irreversible plastic replacement trends
- ✓ Strong institutional and commercial customer base secured
- ✓ Scalable production platform with product diversification roadmap
- ✓ Alignment with India's national sustainability and Green Manufacturing goals
- ✓ Sustainable revenue generation with potential for export market expansion

## 11 CLIENT TESTIMONIAL

*"NPCS provided us with valuable feasibility insights and a structured project assessment that helped us evaluate an environmentally sustainable manufacturing opportunity with confidence. Their technical expertise and strategic guidance added significant value to our investment planning process."*

— M/s. Badri Cotsyn Limited, Bhopal, Madhya Pradesh

## 12 WHY CHOOSE NPCS

<p><input type="checkbox"/> <b>Proven Industrial Expertise</b></p> <p>30+ years of specialised industrial consultancy across hundreds of manufacturing sectors — from food processing and chemicals to green manufacturing and advanced materials.</p>	<p><input type="checkbox"/> <b>Global Market Understanding</b></p> <p>Clients in 50+ countries benefit from NPCS's deep understanding of international market dynamics, import-export trends, and global demand intelligence.</p>
<p><input type="checkbox"/> <b>Data-Driven Feasibility</b></p> <p>Every project recommendation is backed by rigorous research, quantitative analysis, and industry benchmarking — ensuring decisions are based on evidence, not estimates.</p>	<p><input type="checkbox"/> <b>End-to-End Project Support</b></p> <p>From initial opportunity identification through DPR preparation to implementation advisory — NPCS delivers complete, integrated consulting support at every project stage.</p>
<p><input type="checkbox"/> <b>Risk Mitigation Approach</b></p> <p>NPCS's structured feasibility methodology systematically identifies and addresses technical, financial, market, and operational risks before capital is committed.</p>	<p><input type="checkbox"/> <b>Bankable Project Reports</b></p> <p>NPCS DPRs are trusted by banks, financial institutions, and investors for project financing — built to meet the most demanding standards of commercial lenders.</p>

## 13 CONCLUSION

Successful manufacturing investments require more than capital — they require technical validation, market intelligence, and commercially sound planning. This engagement demonstrates precisely how NPCS delivers that value.

By conducting a rigorous techno-economic feasibility assessment, NPCS empowered M/s. Badri Cotsyn Limited to identify, evaluate, and commit to a future-oriented manufacturing opportunity — the Manufacturing of Biodegradable Disposable Cups & Plates — with full investment confidence.

The project represents a strategically sound investment in a high-growth, sustainability-driven segment with strong long-term market fundamentals, institutional demand, and clear regulatory tailwinds supporting growth.

The client's decision to proceed with full project implementation is a direct reflection of the quality, depth, and value of NPCS's professional consultancy services.

## READY TO BUILD YOUR NEXT INDUSTRIAL PROJECT?

*Partner with Niir Project Consultancy Services (NPCS) to transform your investment idea into a profitable industrial venture.*

**Detailed Project Reports | Techno-Economic Feasibility | Market Research | Financial Viability | Strategic Advisory**

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