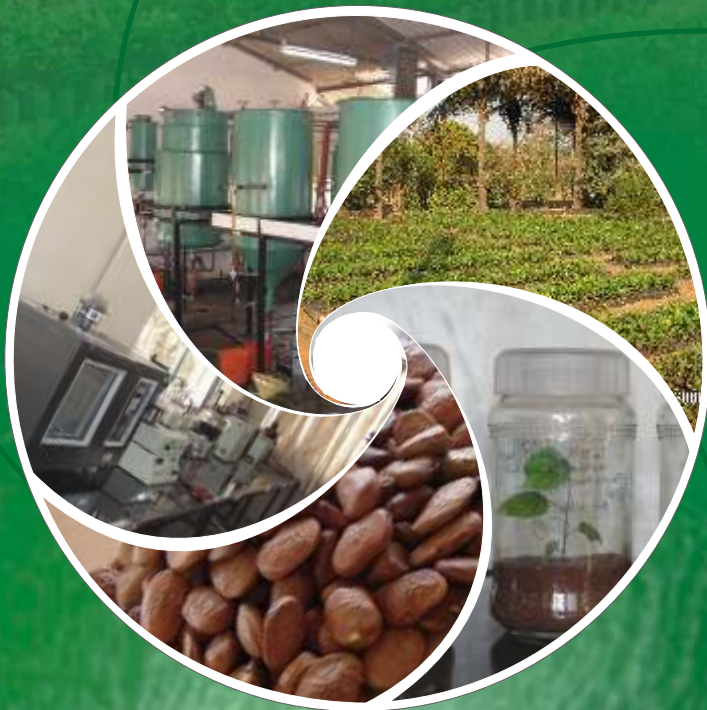




Mint Biofuels Ltd.

# Project Profile



Powered By



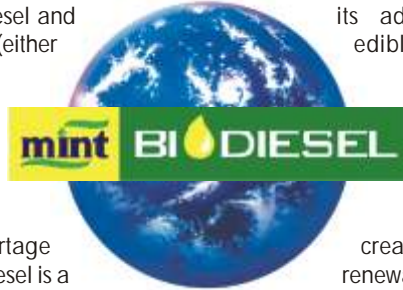
*A Beginning...*



*...For Self Reliant India*

## Introduction

By now, the need for bio-diesel and everybody. Vegetable oil (either processed to remove fatty To produce biodiesel, required, which will make will help arrest ozone diesel will reduce pollution substantially. It demand and diesel shortage fossil fuels. Moreover, Bio-diesel is a



its advantages are known to edible or non-edible), when acids, gives bio-diesel. more plantations will be the earth greener and depletion. Use of bio-emission and air will fill the gap of created by depleting reserves of renewable source of energy.

Bio-diesel to India offers many unique advantages. First & foremost, it will reduce/eliminate import of crude oil/diesel. It will make nation self-sufficient, particularly our Defence. It will provide employment opportunities to rural population. It will utilise wasteland that presently gives hardly any income. Bio-energy projects will provide Power generation with less investment., compared to conventional methods. Also, it will create availability of good quality organic manure, to help farming and will reduce the effects of chemical fertilizers.

## What is Biodiesel?

In Chemical terms, Bio-diesel is mono-alkyl esters of fatty acids derived from vegetable oils or animal fats. The vegetable oil, extracted from oil seeds, is processed chemically to obtain biodiesel. Seeds of many plants contain oil, like coconuts, groundnuts, Soya bins, rapeseeds, Caster, Sunflower, which is presently extracted and used for many applications. Non-edible oil-seeds like Karanj, Jatropha, Castor, etc. are preferred over edible oil-seeds for biodiesel production. Main reason being, shortage of edible oil for its existing usages.



## Why Biodiesel?

Biodiesel has several advantages. Since, it is to be derived from tree born oil seeds, it will encourage plantation, which will help create green earth & arrest ozone depletion. Use of bio-diesel will reduce emission and air pollution substantially as Bio-diesel contains very insignificant or almost no sulfur and has excellent emission results as against normal diesel. Bio-diesel flash point is very high, which makes it safe for storage and transportation. Its calorific value and cetane index are comparable with diesel. Use of biodiesel will the gap of increasing demand and diesel shortage created by depleting reserves of fossil fuels. Moreover, Bio-diesel is renewable source of energy. There can be CDM benefits (Carbon Credit) for plantation, biogas generation and use of biodiesel.

## Specifications Of Biodiesel

Biodiesel is comparable in many ways with mineral diesel, which can be seen from following chart.

Property	Biodiesel	ASTM standards	Diesel
Calorific value	39-40 MJ/kg	-	44.03MJ/kg
Density	0.87	-	0.82-0.86
Flash point	186 C	130 C min.	35 C min
Sulphur content	0.0015%	0.05%	0.25 % max
Viscosity	5.867	1.9-6.0 cSt	2-5 cst
Cetane Index	50-52	47 Min.	48

Activity of biodiesel has also another angle of by-products, like methanol, glycerin, which have many applications. But more importantly, biogas, which can be produced by using the de-oiled cake and slurry available out of the biogas plants, have additional advantages. This will enable Power generation with less investment, and also the availability of good quality organic manure.

## Inspiration For This Project



With a foresighted vision and dream of self sufficient, self reliant & powerful India, Shri Sudershanji, Honourable RSS Chief advised us and inspired us to take up Karanja Plantation & Biodiesel activity.

With this inspiration in mind, Minilec India Pvt. Ltd. and Intech Surface Coating Pvt Ltd have promoted Mint group for Bio-energy Project. To produce Biodiesel on such a large scale, plantations of Karanj (Non edible oil seed plant) needed to be done on similar scale.



Suyash Charitable Trust which is co-founded by Minilec-Intech group, and works for social and financial upliftment of tribal farmers, promoted plantation of Karanj in tribal areas, thus generating additional source of income for them. When the issue of assurance of purchasing Karanj seeds when yield starts was being discussed, we decided to take up this activity and assure them of guaranteed returns on their plantation. generating additional source of income for them.

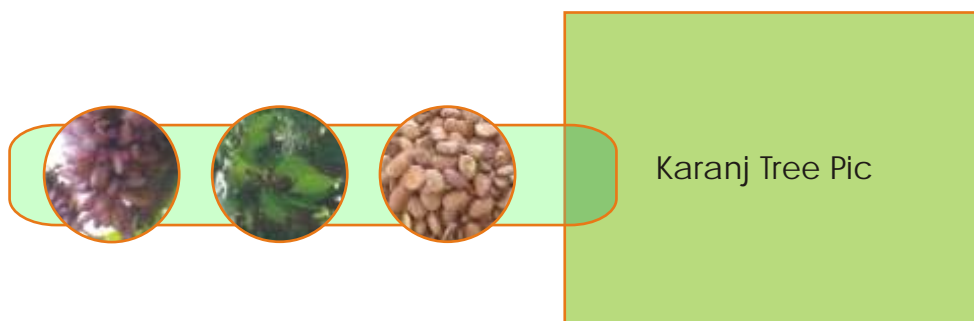
When the issue of assurance of purchasing Karanj seeds when yield starts was being discussed, we decided to take up this activity and assure them of guaranteed returns on their plantation.



## Karanj For Biodiesel

In our country, although, presently, Jatropha, Castor and Karanj are primarily being considered for biodiesel, it can be seen that Karanj has excellent advantages over other plants.

Firstly origin of Karanj is in India; hence it grows in all areas, all weather conditions, all types of soils, everywhere.



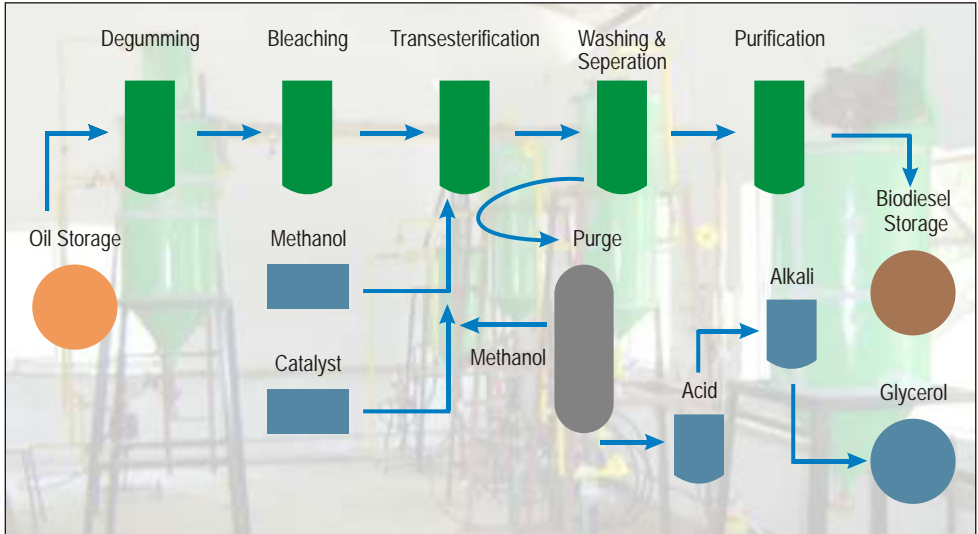
- ♦ Karanj is a Tree (and not a shrub) and is green during summer adds to natural beauty, helps cool air and shelter
- ♦ For plantation and growing, it needs no pesticides. Average rainfall required is between 500-2500 mm.
- ♦ Pods/seeds collection work is in Summer, when generally farmers are less occupied in farm work. Hence idle manpower is utilized. (3 months employment per acre in summer for a family of 4 persons)
- ♦ Plantation is to be done in wasteland, which uses another unutilized resource. Its leaves are a good manure. Flowers, leaves, seeds and oil has many medicinal properties.
- ♦ By growing honey-bees, honey production can become additional source of income.
- ♦ The cake is useful as manure, and also can give bio-gas.

There is a more talk of Jatropha plantation for biodiesel. Following is a comparison between Jatropha and Karanj for the benefit of all.

Particulars	Karanj	Jatropha
No. of plants per acre	200	1000
Plant life	80-100 years	40-60 years
Yield start	6th Year	3rd Year
Yield per plant	Minimum 20 Kgs.	Upto 2.5 Kgs.
Seed yield per acre	4 Tonnes (Min.)	2.5 Tonnes
Earnings per acre	Rs. 24,000 (Min.)	Rs. 15,000
Oil yield per acre	1 Ton (25%)	0.75 Tonnes (30%)
Oil cake per acre	3 Tonnes	1.75 Tonnes

## How Biodiesel Is Produced

Seeds of Karanj (or Jatropha/Castor) are crushed through an oil expeller, which separates oil and cake. The oil is filtered and passed through a chemical reactor for mixing it with methanol in



Presence of a catalyst. Here fatty acids are separated, and esterification process takes place. The end product is bio-diesel. By-product Glycerin is separated and excess Methanol is recovered.

### Other byproducts

Process of biodiesel manufacturing gives many important byproducts. Glycerin is a primary source for pharma industry and cosmetic (soap/shampoo) industry. The de-oiled cake has various uses Fertilizer, biogas feed, pesticides, etc. Biogas can be used as source of electricity generation, for domestic use (cooking, lighting), for vehicles. Biogas Slurry is a nutrient-rich Organic Manure, with many advantages over chemical fertilizers. Bio-energy project has been initiated by us considering the above advantages. The project is proposed by Minilec-Intech group of companies, who are presently engaged in diverse business activities.



## Expanse of Bio-Energy Project

The bio-energy project covers following activities:

1) Plantation, 2) Oil Extraction & Transesterification, 3) Bio-Gas & Electricity Generation  
4) Organic Manure, 5) Research Center, 6) Bio-diesel plant related machinery & equipments manufacturing.

### ■ Plantation

To provide for sufficient seeds of our plant, plantation of Karanja seeds on around 5000 acres area is planned. Out of this, we propose to have our own plantation in approx. 1000 acres land. Balance will be on contract farming against appropriate agreements with local farmers. The plantation on own land will be at two or three locations depending upon availability of appropriate land. Since the plants will start giving seeds after 5/6 years, mixed plantation with Caster is proposed from first year itself, so that those seeds will be available for crushing.



### ■ Oil Expelling & Transesterification

A plant of the capacity of 2500 tonnes is being set up including oil expelling unit, filtration plant, and transesterification plant. This will be operational by May/ June 2006. Initially, seeds are being sourced from various locations in Maharashtra, Andhra Pradesh, Karnataka, Rajasthan & Chhatisgarh. This will be first of at least 10 such plants proposed to be set up at different parts of the country.



The Plant will be totally indigenously designed and manufactured.

### ■ Bio-Gas & Electricity

Considering 25% oil yield, plant will produce 7500 tonnes of de-oiled cake every year. This is planned to be used for biogas plant to generate biogas. This biogas will be used to run dual fuel generators to produce electricity. A plant of 2500 tonnes bio-diesel capacity will produce 1.5 MW power at very less investment compared to conventional power projects. This can be sold to Electricity Board (supply to grid).



### ■ Organic Manure

The slurry available as output of bio-gas plant is excellent organic manure. The liquid portion of it is proposed to be separated by employing a suitable sized centrifuge and other portion will be available as excellent nutrient for plants (organic manure).

### ■ Research Center

All the above activities will need a strong support of Research & Development. A separate research center is proposed to take care of research on tissue culture (to produce HYV Karanja plants on large scale), Continuous batch testing of oil and bio-diesel will be required to be done to study, monitor and improve process capabilities. Testing of bio-diesel on engines and diesel machines with various blend percentages is required to be taken up on vehicles, diesel water pumps, diesel generating sets, etc. Design of bio-gas plant for optimum gas output, testing of gas on dual fuel engines, processing of slurry, its testing for nutrient contents enriching, etc. will be continuous

activities. Similarly design of machines, plants and equipments for such projects shall also be undertaken with an aim to develop the total plant indigenously thus avoiding imports. A separate research unit is started and the activities mentioned above have already been started.

A plant of 100 liters/day capacity is installed including oil expelling unit, trans-esterification, as also bio-gas plant. This is expanded to 400 liters per day in December 2005 and will further be scaled up to 1000 liters per day. Bio-diesel generated is being supplied to some customers and is also being used on own vehicles and engines. Biodiesel is also tested in recognized laboratories as per ASTM standards satisfactorily. Testing of bio-diesel on generating sets, engines, and vehicles is started. Some research.

In association with Agharkar Research Institute, Pune efficient bio-gas operations & special microbiological culture, is being established. Studies are being undertaken to develop excellent organic manure from biogas slurry.

### ■ Machinery & Equipments

We are planning to set up at least 10 plants of 2500 tonnes capacity each, and will require range of machineries like oil expelling machines of various capacities, boilers, oil filters, trans-esterification plants, centrifuge, bio-gas plants, transportation & storage equipments, etc. Most of these machines will be designed by us and installed in our own plants. A project Report covering above activities with a capacity of 5000 tonnes per year, has been sent to Honorable President of India, who in turn has forwarded it to Ministry of Non-conventional Energy Sources (MNES). On their instructions, Maharashtra Energy Development Agency (MEDA) visited our pilot plant and submitted their satisfactory report to MNES.



Techno-commercial appraisal of the project report has been made by MITCON, Pune for the purpose of bank finance.

## Group Profile

Minilec India Pvt Ltd and Intech Surface Coating Pvt Ltd have promoted Mint group for Bio-energy Project.

Minilec-Intech Group of companies are in the diverse fields like Electronic, gadgets for protection and control, soft starters, PLC's and other Industrial automation products, Surface Coating plants, Material Handling, and Storage systems and now are entering in the field of Bio Diesel, Feed for Bio Diesel, Bio Gas, electricity generation, Organic Manures etc.

### ■ Minilec Group



- ◆ Minilec India Pvt. Ltd .
- ◆ Shalaka Electronics Pvt. Ltd.
- ◆ Asmita Enterprises Pte Ltd, Singapore
- ◆ Minilec Controls Pvt Ltd.
- ◆ Minilec Singapore Pte Ltd

The group was established almost 40years ago in 1963 as a Small Scale Company in Electronics. The basic philosophy is to establish strong research in niche markets, manufacture quality product and provide service for long term customer satisfaction. The group has followed these principals to get pride and pleasure out of the business. The products are established in domestic as well as overseas market. The manufacturing establishments are mainly in Pirangoot near Pune since 1990 and Marketing unit outside India, is in Singapore.



Minilec manufactures various industrial electronic devices and systems like motor protection relays, voltage / current / frequency / power monitoring relays, level controllers, timers, soft starters, alarm annunciators, transducers and various controllers. Minilec has about 200 dealers in India and about 20 distributors overseas. The company is ISO9001 and has many of its products tested as per CE and CSA norms.

Leading customers include ABB, Carrier, Siemens, Crompton, L&T, LG, Kirloskars, Tata, Thermax, Railways, MTNL/BSNL, Irrigation Departments, Electricity Boards etc. Products are also exported to many countries in South East Asia, Middle East, Europe, America and China.

Shalaka Electronics is 100% exporting unit for export of Minilec products. It has established a subsidiary in Singapore for marketing their products in South East Asia

### ■ Intech Group



- ◆ Statfield Equipments Pvt Ltd
- ◆ Intech Surface Coating Pvt Ltd
- ◆ Intech Overseas Projects (I) Pvt. Ltd.
- ◆ Intech Germany
- ◆ Intech Surface Coating & Storage Systems Sdn. Bhd., Malaysia

Statfield manufactures Electrostatic painting equipments and other sophisticated surface coating equipments for paints and products. It has introduced powder coating process in India through a German collaboration.



It had also a Japanese collaboration for other sophisticated surface coating equipments. Now through its own R&D, Statfield has developed number of patented products, which are being marketed even in developed countries. Intech Surface Coating Pvt. Ltd. is engaged in supplying turnkey surface coating plants for powder and painting which includes Pre-Treatment, Spray Chambers, Ovens, Material Handling etc. There are small batch plants as well as large conveyerised plants, which are being supplied with manual or complete automated operations.

Initially, with German collaboration Intech Auto Stores & Conveyors Pvt. Ltd. manufactured sophisticated conveyors for material handling. Now product range covers automated storage systems and material transporting systems, Vertical carousals etc.

All the products of Intech Group are already established in domestic market. Major Indian industries as well as Joint ventures or subsidiaries of International companies are using these products in the fields of white goods, bicycle and two wheeler and three wheeler industries as well as four wheeler industries, Machine tool manufacturers, Electrical Industries etc. Besides Indian Railways, HAL, Ship yards and Large Public sector undertaking like BEL, BHEL are already using these products.

Intech overseas is exclusively handling overseas projects for surface coating and also selling sophisticated painting, powder coating equipments of Statfield, mainly in Middle East and Indian Subcontinent. For overseas operation in South East Asia, it has established subsidiary in Malaysia and for Europe in Germany.

## ■ Mint Group



Since there are quite diverse activities associated with the bio-energy project, separate entities are established to specialize in specific activity areas.

Mint Agri Research & Development Pvt Ltd will carry out all research activities required in bio diesel project such as Tissue culture, process and for expelling filtering and Transesterification to produce bio diesel, bio gas, electrical generation, Organic manure and pesticides.

Intech Energy Systems Pvt Ltd will manufacture and supply machines and plant required for this project. For home consumption as well as marketing to others.

Yashprabha Agro Industries will arrange plantation through own farming, contract farming or promoting and helping plantation to feed oil production. The activity will include oil expelling, bio gas plant and manure pesticide for production. One Taluka level plant to produce 5000metric ton oil every year is launched near Chiplun in Konkan. Ten such plants will be initiated in next five years.

Mint Bio Fuels Ltd will establish manufacturing of bio diesel through Transesterification and will arrange to market bio diesel, organic manure, electricity and other bi product like Glycerin.

## Promoter's Details



Mr. Y.G. Ghaisas, Chairman & Managing Director, Intech Group of Companies, and Mrs. S.Y. Ghaisas, CMD, Minilec group of companies, have promoted the bio-energy project.

Mr. Y.G. Ghaisas is Engineering graduate of Mechanical and Electrical wings and has successfully promoted Minilec in 1964 and then Statfield in 1975 (which is later on renamed as Intech).

In the early days of Minilec, Mr. Ghaisas has designed various products, established their manufacturing & testing processes and also set up sales and marketing network.

After promoting Statfield, Mr. Ghaisas successfully finalised Technical collaboration agreements with Mueller (Germany), Resicoat (Germany), Iwata (Japan) for some products in surface coating line. He has also developed new products in Statfield/Intech and acquired Indian & world patents for them.

Mr. Ghaisas has also promoted two overseas units of Intech group one in Malaysia and one in Germany those are operating over last 5/6 years. He is holding responsibility of RSS for Pune Mahanagar as Sanghchalak.



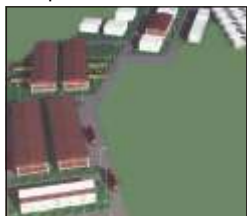
Mrs. S.Y. Ghaisas, is Post Graduate with Economics as specialization and is handling Minilec group since 1978-79. Minilec activities have grown and network expanded that includes overseas sales and distribution network. Minilec promoted a company in Singapore in 1995, and also acquired ISO9001 certification in 1994. Minilec is the first company in India, in its field and of size to obtain ISO 9001 certification

Mrs. S.Y. Ghaisas. has been awarded the Best Woman Entrepreneur prize in 2002 by Institute of Engineers and was felicitated by Leelawati Mehendale Trust. Her profile as a successful business woman has appeared in leading business journals like Business India, and IEEMA Journal. She is also joint secretary of Laghu Udyog Bharati - an association of SSI units in India & chairperson of Karve University.

## Project Details

A project to produce Biodiesel upto 2500 tones per year in single shift or 5000 tones in two shifts, will come up at Pathardi, Taluka Chiplun, District Ratnagiri (Maharashtra). Land admeasuring around 8 hectares is purchased for the purpose.

The plant will include buildings, plant and machinery for following processes:



- ◆ Storage of seeds, chemicals, cake, Organic Manure and Biodiesel
- ◆ Oil Expeller and solvent extraction unit
- ◆ Trans-esterification plant, including methanol & glycerin recovery
- ◆ Biogas plant
- ◆ Slurry processing
- ◆ Electricity Generation
- ◆ Administrative building and residential buildings.

First Plant of Mint Biofuels is coming up at Pathardi, Taluka Chiplun, District Ratnagiri (Maharashtra) with a capacity of 2500 tonnes of Biodiesel per year with single shift operations and 5000 tonnes with two shifts operation.

Civil work for the buildings is being started on 2<sup>nd</sup> February 2006. Simultaneous work is also being taken up for plant manufacturing and ordering of bout out equipments.

The plant is planned to be operational by May/June 2006.

The plant will be spread over 20 acres of land and will include Administrative office building, storages for seeds, Biodiesel and organic manure, oil expelling unit, solvent extraction unit, trans-esterification plant, biogas plant, electricity generation, biogas slurry processing & organic manure. Processing of bye-products like glycerol and methanol are also included in the project.



Work is already started for procurement of seeds of Karanja (Pongamia) at least 10,000 tonnes (for one shift operation), and above 20,000 tonnes (for two shifts operation). Through newspaper advertisements, suppliers of seeds in Maharashtra have been finalized. Similar exercise is being undertaken for Andhra Pradesh. Some suppliers of seeds in Karnataka and Rajasthan (from whom seeds were procured earlier) have been also identified for additional supplies.

During the last season, about 100 acres of own plantation has been done for Karanja seeds. About 500 acres of plantation has also been done by other farmers and tribals on their own. Additional plants are developed in the nursery and these will be planted during coming monsoon season. Total estimated plantation is of approx, 5000 acres.

## Financial Details

Technical and commercial viability of the project has been verified and cleared by MITCON, and the project has been submitted to financial institutions for funding. Upto 25% of funds will be raised through promoters' contribution and deposits, and balance will be long term loan from banks.

The approximate financial outlay is as follows:

- ◆ Cost of Land
- ◆ Plant & Machinery
- ◆ Stocks of seeds for one year
- ◆ Buildings
- ◆ Biogas plant

**Total Project Cost :**  
Rs. 12.00 Crores, covering the above.

**MITCON PROJECT REPORT**

**1. Name and Address:** MTC Castor Limited, Address: Plot No. 10, Sector 10, Gurgaon, Haryana - 122001

**2. Factory:** MTC Castor Ltd. Plot No. 10, Sector 10, Gurgaon

**3. Constitution & Type:** Public Limited Company

**4. Place, Pin Code:** Gurgaon, Haryana - 122001

**5. Products:** 1. Castor Oil  
2. Castor Meal  
3. Castor Cake

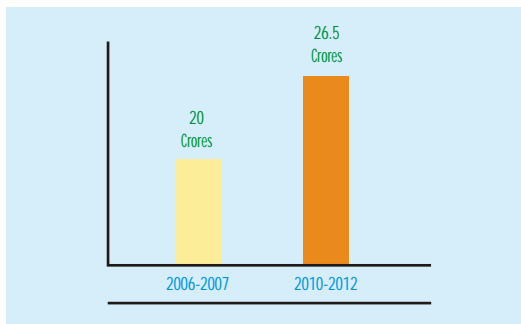
**6. Installed Capacity:** 1000 TPD (Castor Oil), 1000 TPD (Castor Meal), 1000 TPD (Castor Cake)

**7. Project Cost and Means of Finance (INR Lakhs)**

Sl. No.	Particulars	Amount
1	Land	20.00
2	Buildings	4.60
3	Plant & Machinery	4.60
4	Stocks of seeds for one year	2.80
5	Biogas plant	2.00
6	Working Capital	1.00
7	Preparation of Project Report	0.50
8	Contingency	0.50
9	Other Expenses	0.50
10	Total	46.50

**Means of Finance:** 25% Equity, 75% Bank Loan

Projected Turnover (In Rupees) :



For Plantation, (Karanja, Castor & Nursery) , following cost outlay is estimated:

- A) Cost of Land (1000 acres own) & Building, Machinery etc. : Rs. 4.60 Crores  
 B) Plantation Expenses: Rs. 8.30 Crores (for 5 years).

## Organisational Support

### Business Support

Name	Qualification	Experience
Mr. Y. G. Ghaisas	BE (Elec/Mech)	40 Years - Business
Mrs. S. Y. Ghaisas	M.A.(Economics)	25 Years - Business
Mrs. Amit Ghaisas	B.E. (Mech)	10 Years - Business
Mr. Prasad Kelkar	B.E. (Electronics)	10 Years - Business

### Marketing Support

Mr. K. W. Kekane	B.Com,DETE,MBA (Mktg)	20 Years Marketing
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### Research Support

Mr. Rahul Gokhale	M.Sc., Ph.D. (Chemistry)	10 Years - Research
Dr. Mohini Pathak	Ph.D. (Biotechnology)	14 Years - Research

### Projects & Design

Mr. U. B. Bapat	M.E. (Mech)	30 Years Projects & Design
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### Accounts Support

Mr. N. S. Nigde	M.Com.	20 Years - Finance
Mr. S. G. Patwardhan	B.Com., MBA (Finance)	15 Years - Cost Mgmt.

### Production Support

Mr. U. V. Kuber	D.M.E. (Elec./Mech)	40 Years Production
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### Agriculture Tech. Support

Mr. Mahesh Shelke	B.Tech. (Agri. Engg.)	10 Years - Agri. Technology
Mr. Rajendra Kirloskar	B.Sc.(Agri.)	33Years - Agri. Development
Mr. Nana Deore	Dipl. in Agriculture	15 Years - Agri. Dev.
Mr. Bajwala		

## Marketing Arrangements

For Biodiesel, we already have developed customers based on the production available from the pilot plant running at Pirangoot. These include following categories of customers:

- ◆ Buses/Fleet owners
- ◆ DG rental contractors
- ◆ DG users
- ◆ Car/Truck Users

All of these have been using Mint Biodiesel since April 2005, and some have started using since December 2005. They will consume around 10 tonnes of Biodiesel per month.

A small initial sample lot of 400 liters has been supplied to Singareni Collieries, Andhra Pradesh. They have a regular requirement and will make bulk purchases regularly. This single customer alone has requirement of around 10 tonnes of Biodiesel per month.

Biodiesel is also offered to Indian Railways, Mumbai with initial quantity of 6 tonnes. Once regularized, they will require approx. 10 tonnes to 50 tonnes per month. On similar lines, other customers can be developed. There are already enquiries from other parties for own consumption and for distributorship.

A quick market survey for organic manure marketing has been done in Maharashtra. 8 out of 15 distributors of organic manure have responded positively and have shown interest in taking distributorship. A customer in Hong Kong has shown keen interest to market Biodiesel and organic manure and expects supplies in container loads.



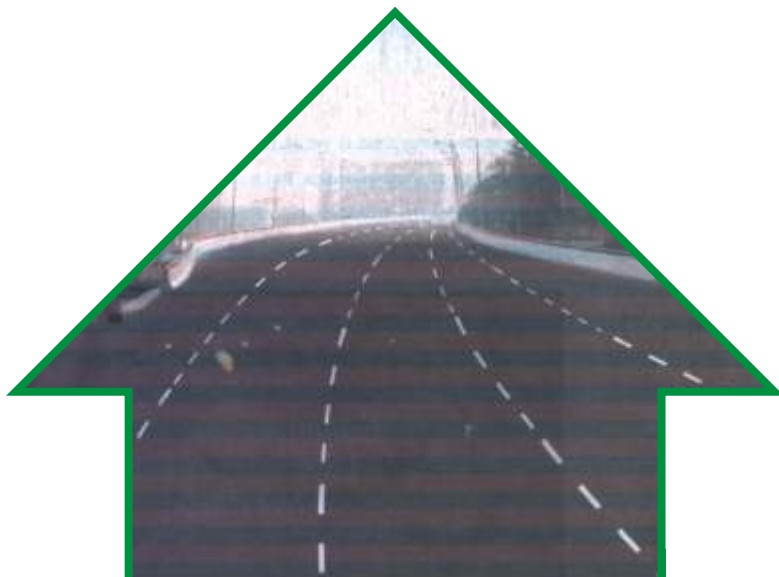
A Biodiesel production plant of 2 tonnes per day capacity Hence, marketing of Biodiesel, plants and organic manure does not pose any difficulty.

## Journey So Far

- April 2003 — Shri Sudershanji, RSS Chief advised to take up Karanja Plantation & Biodiesel Activity.
- July 2003 — Seminar on Biodiesel by CBMD, at Pune
- February 2004 — Karanj (Pongamia) oil purchased and testing on Diesel Engine started
- April 2004 — Oil Expeller of 50 liters/day with one shift operation purchased
- June 2004 — Testing of oil (with pre-heating) on diesel engines completed & results reviewed.
- October 2004 — Biodiesel Plant (Trans-esterification) established capacity 100 liters/day
- October 2004 — Biodiesel Tested as per ASTM Standards
- October 2004 — Workshop on Biofuels at IOWA University, USA, attended.
- October 2004 — Biodiesel workshop in Nagpur attended
- October 2004 — Biogas Plant of 2 cu.Mtr. per day commissioned.
- December 2004 — Tissue Culture Laboratory established.
- April 2005 — Agricultural Summit in Delhi attended.
- April 2005 — Use of Biodiesel on own Diesel Generator, SKODA car started at the hands of Shri Sudershanji, RSS Chief.
- April 2005 — Protocol for Karanj (Pongamia) mass multiplication developed.
- June 2005 — Joint testing on Diesel Generators planned with Kirloskar Oil Engines Ltd
- July 2005 — Plantation started in Vanwasi (tribal) areas. & in own land
- July 2005 — Pilot plant activities apprised by MEDA Pune and report submitted by them to MNES New Delhi.
- September 2005 — Land (20 Acres) purchased in Chiplun Area for proposed Biodiesel Plant.
- December 2005 — Plant capacity increased to 400 liters/day (Oil Expeller installed)
- December 2005 — Commercial launch of Biodiesel to customers in Pune
- December 2005 — Order for 400 liters Biodiesel received from Singarenni Collieries, AP
- January 2005 — Techno-commercial appraisal of Chiplun Project by MITCON received.
- January 2006 — Biogas plant of 133 Cu.Mtr. per day capacity started.
- January 2006 — Trans-esterification plant scaled up to 400 liters/day.
- February 2006 — Bhoomi-Pooja of Proposed Plant at Chiplun.



## Future plans



- ◆ Own plantation of approx. 1000 acres will be completed
- ◆ Plantation with contract farming agreements will be completed on approx. 5000 acres
- ◆ Biodiesel plant of 5000 tonnes per year, will be made operational at Chiplun
- ◆ Similar plants will be established in other areas subsequently.
- ◆ More plantation of Karanja by farmers and tribals will be promoted.
- ◆ Marketing network for organic manure will be established.

CHAPTER - 1



HIGHLIGHTS OF THE PROJECT

Name and Address: Mint Bio Fuels Limited, S. No. 1073/1, 2,3 Multha Road, Pirangoot, At Pathardi, Tal. Chiplun, Dist. Ratnagiri

Factory: Public Limited Company, (020) 22922350 -57, mint@mintbiofuels.com

Constitution & Type: Public Limited Company

Phone, e-mail: (020) 22922350 -57, mint@mintbiofuels.com

Products:
 

1. Karanj Bio-Diesel
2. Power
3. Glycerin
4. Manure

Installed Capacity:
 

1. Karanj Bio-Diesel: 187 Tpd
2. Power: 3050 KW
3. Glycerin: 1.8 Tpd
4. Manure: 187 Tpd

Capacity Utilization (%): Bio-Diesel Plant
 

- First Year: 70
- Second Year: 90
- Third Year: 100

Cost and Means of Finance (Rs. Crores)

Particulars	Amount
Site Development	28.78
Machinery	357.00
Set Up	463.00
Assets	26.00
Pre-Expenses	3.00
Margin	1.00
Total	118.78

IOWA STATE UNIVERSITY  
OF SCIENCE AND TECHNOLOGY

Certificate of Completion  
As a document of attendance at a professional level continuing education program, this certificate is awarded to

Amit Y. Ghaisas



Powering The Future Through Green Fuel

MAHARASHTRA ENERGY DEVELOPMENT AGENCY  
(A Government of Maharashtra Undertaking)  
Khandalkar - Mr. K. W. Kekane  
Director



DI: 13<sup>th</sup> July, 2005  
Fax - 020-22922180  
22922180



Ref: PGMINT-013/2005-06/3469  
Chief Director  
National Energy Sources (MNES)  
Lodi Road,  
New Delhi

Green Energy Systems Pvt(Ltd., Dist. Pune  
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## Mint Biofuels Ltd.

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