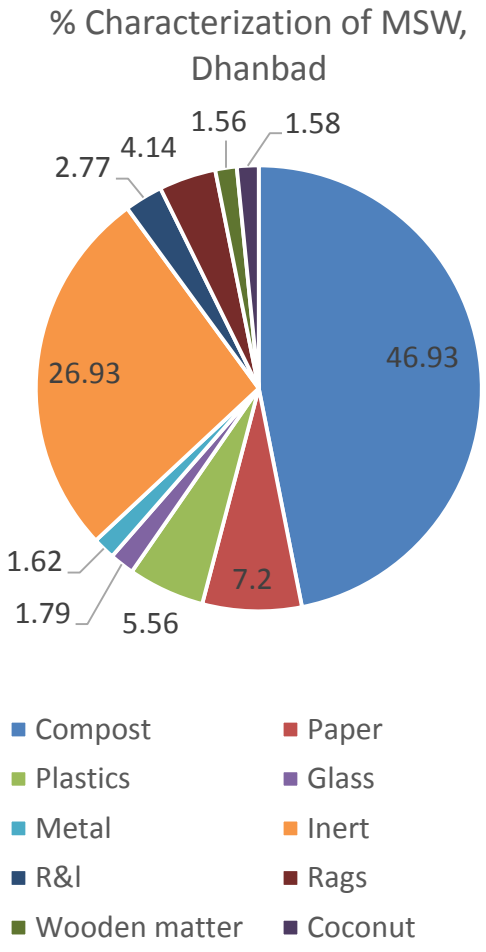
KEEP CLEAN

KEEP GREEN

"Zero Waste Lifestyle"

Present Scenario



- No scientifically designed landfills
- Primary and secondary collection system is verse.
- Water got contaminated with percolated leachate.
- Garbage is burnt here or there resulting hazardous gas dioxin.
- Good awareness because of Clean India Campaign but on ground execution is required.
- 80% People are ready to cooperate but there is no proper waste management system.
- About 10% of generated wastage are treated before disposal.
- Municipality Waste has about 46% of wet waste, which is not utilized.
- Dumping Yards are growing by leaps and bounds.
- Dumping yard Fire to reduce the area emits poisonous gas Dioxin.
- Most of the company and NGOs failed in waste management.
- Billions of money allotment for Solid Waste Management.

Solid waste goes to where??
Either dumping yards or landfill site, lets see in this short video how it is affecting lives.

Problems:

- Solid Waste Stock
- Land Wastage
- Green House Gasses
- Health Problems
- Leachate in Drinking Water
- Infertile Land
- Ground Water Contamination
- Resource Wastage
- Broken Cycle due to Dumping Yards
- Disease like chicken gunia,
- Abortion problem

Company Profile:

Startup Details:	
Name	Total Waste Solution
Website	www.towaso.com
Email id:	info@towaso.com , totalwastesolution@gmail.com
Facebook:	www.facebook.com/towasoIND
Phone number:	+918235639783

VISION	**"Utilize the resources before it gets wasted" because everything which is not used is a waste.**
MISSION	**Provide utilization solution to every material before it is wasted, to have a better and sustainable growth.**
What We Do	We enrich the value propositions of waste materials and convert it into useful material as it was before coming to the dustbins.
Why ToWaSo	We provide end to end solution of municipal solid waste, from door to door waste collection to its utilization in bio products and recycling.

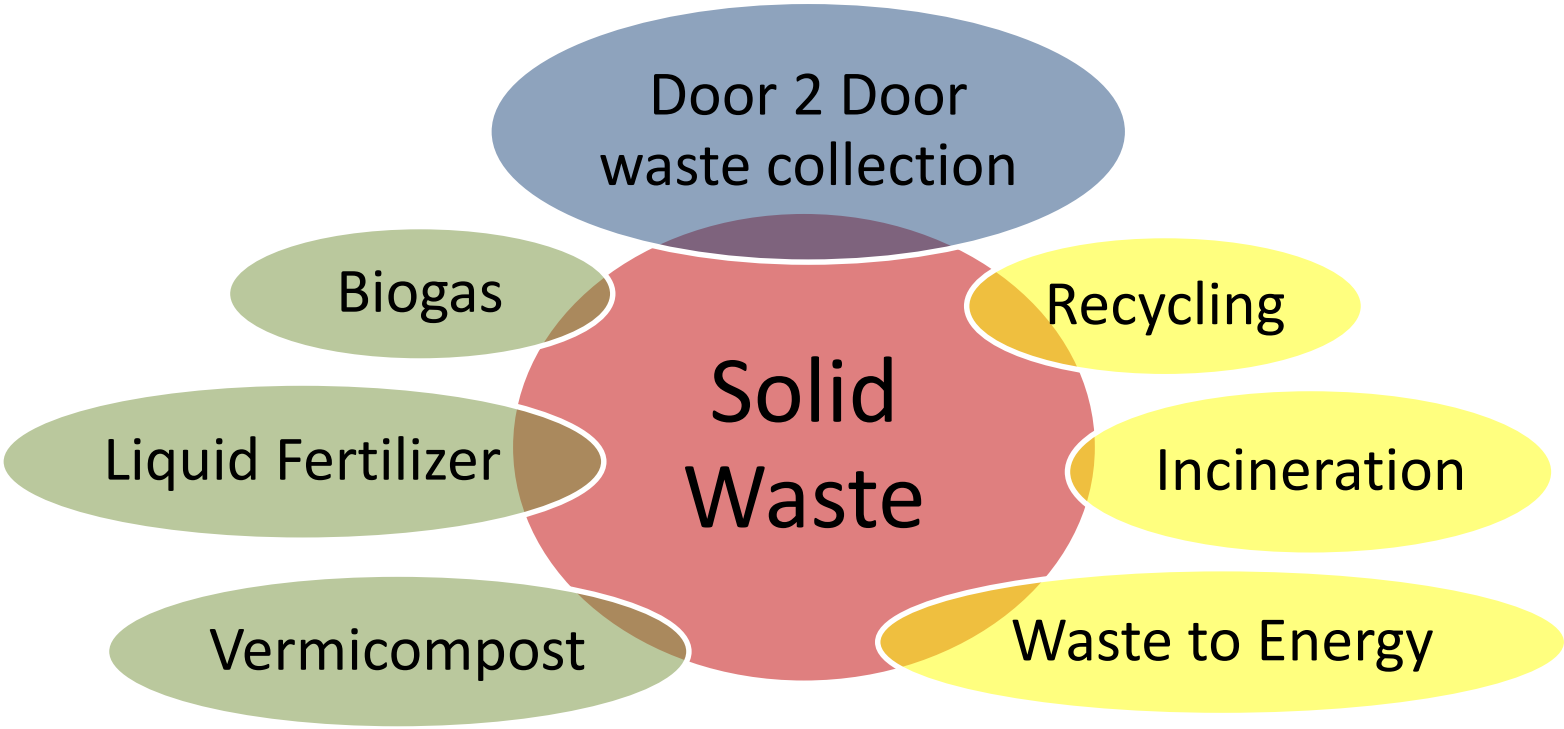
Company Profile

Team Profile:

1. **Saurabh Suman**; Founder (B.Tech in Mechanical Engineering ISM Dhanbad, CMO'15 AIESEC India, held more than six leadership role, Organized event in and outside India)
2. **Soni Kumari**; Product Development (MSc Zoology PKRM, College Topper BSc, Worked with NGO)
3. **Sunny Agrawal**; Product Development (B.Tech in Environmental Science, Solid waste management expertise, ISM Dhanbad)
4. **Ravi Kiran JP**; Product Development (B.Tech in Environmental Science, VP'2015 Talent Management AIESEC in ISM Dhanbad)
5. **Shiv Gupta**; Product Development (B.Tech in Environmental Science, ISM Dhanbad, Water Treatment Expertise)
6. **Nikhil Reddy**; App development and CIM (B.Tech in Computer Science, ISM Dhanbad)
7. **Sai Praneeth**; Business Development (B.Tech in Computer Science, ISM Dhanbad)
8. **Amit Ray**; Web Development (B.Tech in Electronics & Communication, ISM Dhanbad)
9. **Iffat Ara**; HR (B.Sc. Physics, SSLNT College Dhanbad)

Our Service & Products that ensure End to End solutions of:

Solid Waste Management



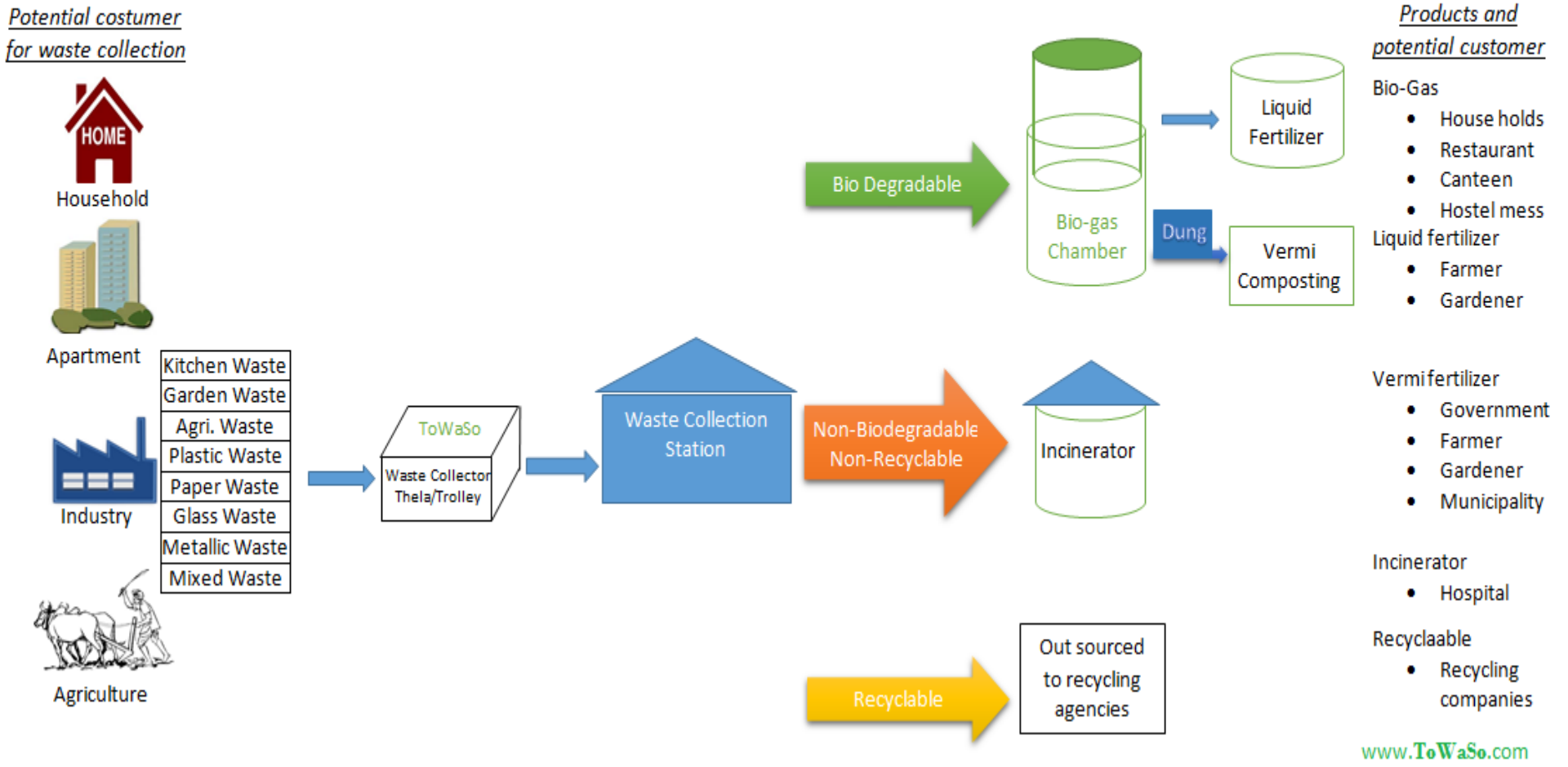
We also offer product and services: Organic fertilizer , Bio-Gas, Waste collection, Waste Transportation and Waste Processing individually.

Innovations

- END 2 END Solution for waste management, starting from onsite segregation and collection to waste processing and product development.
- We are integrating fragmented parts of waste management system which is putting us out of the crowd where players are focusing on one or two aspects of this.
- We are developing a pre alarming mobile applications which will enhance our collection efficiency.
- We are spreading awareness to local people(both rural and urban area) about segregations techniques so that waste can be utilised for product development at maximum efficiency.
- With the help of NGO's and stakeholders, we are spreading awareness regarding many harmful diseases due to exposure to waste.
- Our aim to provide Waste Management system at lowest operational cost both economically as well as environmentally with the participation of local people.

Value Proposition

BLOCK DIAGRAM (TOWASO)



www.ToWaSo.com

Potential Market Segmentation & Market analysis

	Products:	Garbage Collection	Vermi Fertilizer	Bio-Gas	Liquid Fertilizer	Recyclable Materials
Market segments	Households/ Societies	✓	✓	✓	×	×
	Vegetable Shops	✓	×	×	×	×
	Hotels/ Restaurant	✓	✓	✓	×	×
	Institutes/ Organizations	✓	✓	✓	✓	×
	Farmers/ Government	×	✓	✓	✓	×
	Recycling Companies	×	×	×	×	✓
	Municipalities	✓	✓	✓	✓	×

End to End Solution: Our end to end solution starts from waste collection & segregation to proper composting and recycling. And this end to end solution includes all together these five:

1. **Garbage Collection**: We provide door to door waste collection i.e. handling the major portion of waste generated. And using it as a resource
2. **Vermi Composting:** Wet waste is composted into the most sustainable fertilizer. Farmers are doing at small scale some government provides subsidies as well but availability and quality is still a headache.
3. **Bio-Gas Instalment and Operation*:** There are so many players in this, but everyone offer instalment only. We offer instalment and maintenance as well.
4. **Liquid Fertilizer:** This is the high fertility organic by-product of bio-gas plant, and no one is commercializing it.
5. **Recycling:** We are outsourcing for this but eyeing to instalment a plant in 2nd phase.

Business Model

ToWaSo (Total Waste Solution)

Key Partners

Municipality,

Agriculture Ministry

Institutes,

Clean India Campaign

Corporates, Offices, Recycling Companies

Key Activities

Waste Awareness, Waste collection & Separation, Composting, Recycling
Bio Gas Generation

Key Resources

Platform for multi technologies, www.towaso.com
ToWaSo software and App,
Door to Door Waste collection Service

Value Proposition

Sustainable Growth,

Cleaner Environment

Quality & cheaper service,

Zero Waste Solution,

Organic Fertilizer

Customer Relationship

Automated Service, App & Software, Personal Assistance, Local Garbage Collection Point,

Channels

Sale & Support Team, Website & App, IVRS, Events, Social media Awareness Campaign

Customer Segments

House Hold,

Shop Keepers,

Hotel/ Restaurant,

Institutes,

Agriculture Ministry,

Farmers,

Recycling Companies

Cost Structure

Startup Cost(Technology, Plant Setup)
Human Resources,
Cost for production Material,
Other(Vehicle, electricity, office rent)

Revenue Streams

Service charge(Waste Collection), Bio-gas installation, Organic Fertilizer, Consultancy Charge for awareness and planning, Recycling.

Competition

- Competitors and their offerings.
  - A2Z, and few NGOs from south are into waste management.
  - ARTI, Sintex and some small scale firms are into Bio-Gas.
  - There is no such big player in vermi composting but Pantanjali is likely to enter in this segment.

- How is **our solution** better than that of competition?
  - We edge ahead among our competitors in providing **End to End solution** to the problem with some new approach in the field as most of them don't indulge themselves in providing complete solution.
  - Our competitors in India has there strong area focus in South India and we have focus on complete India with initial focus in North India.
  - Densely populated area due to Indo-gangatic plain has edged us ahead of them as this area will have more household to give us the raw waste and market of fertilizer and other products.
  - In vermi our competition is at negligible level as the currently available seller are local level with no brand value and reliability.

Market potential & Strategies

Market Potential:

- There no agencies found in North India area which are using technology for management of solid waste, so at least we don't have such competition in our initial stages.
- No authority is concerned about proper segregation of waste at point of generation.
- Rarely any firm is using technology to optimize route and we are focusing on using these technologies.
- There is a good market for vermi compost in Bihar.
- Few waste management are utilizing waste to produce biogas.
- A boost of clean India campaign which urges municipal solid waste management for clean environment.
- There is also a provision of subsidy for installation of vermi compost plant by government.

Marketing Strategy:

- Waste collection; It has scope of B to B and C to C, Our primary focus is **B to B** so direct pitching to municipalities, institutions, societies. Our educational brand will help us in getting the first impression.
- Vermi & Liquid (Organic) fertilizer; for farmers agricultural department will help us and for urban population we will use conventional methods of marketing.
- To change the mentality of citizens we planned payback scheme for responsible user to promote the behaviour.
- Governmental agencies, and municipalities will be the promoters since we are helping to reach their goal so we expect them to be cooperative.

Observation with Bio-Gas and Vermi-Composting

What we observed:

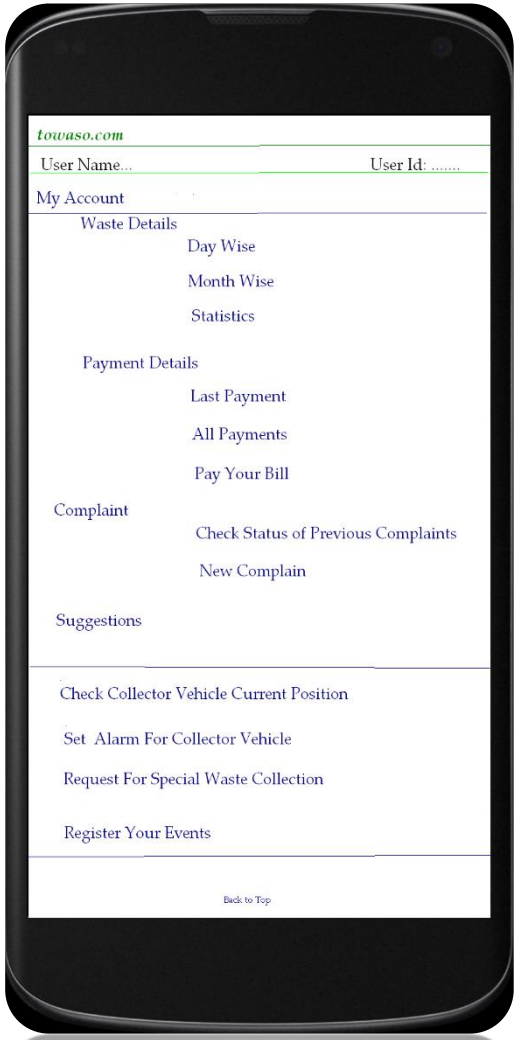
- Kitchen Waste can be mixed with cow dung for bio-gas formation, in which practically only cow dung is used.
- Efficiency of waste can me improve up to a level with proper mixture of kitchen waste and cow dung provided the medium is neutral.

What we observed:

- We had done analysis of different retentions time for waste due to different worm type.
- We are observing worms to find its suitability with different wet waste.

Technologies that gives us Extra Edges

Interactive website, Mobile app, IVRS



Extra edges of app & website:

- Real time tracking
- Pre alarming
- Bill & Payment
- Request special garbage collection
- Event registration for proper waste management
- Track of waste collection per user

Waste collector vehicle with separated rack to avoid remixing of segregated waste. Special Container for special waste on specific days. Like E-Waste, Hairs, Onion Peels, Hen Feather, Battery, CFL Bulbs, Cloths etc.

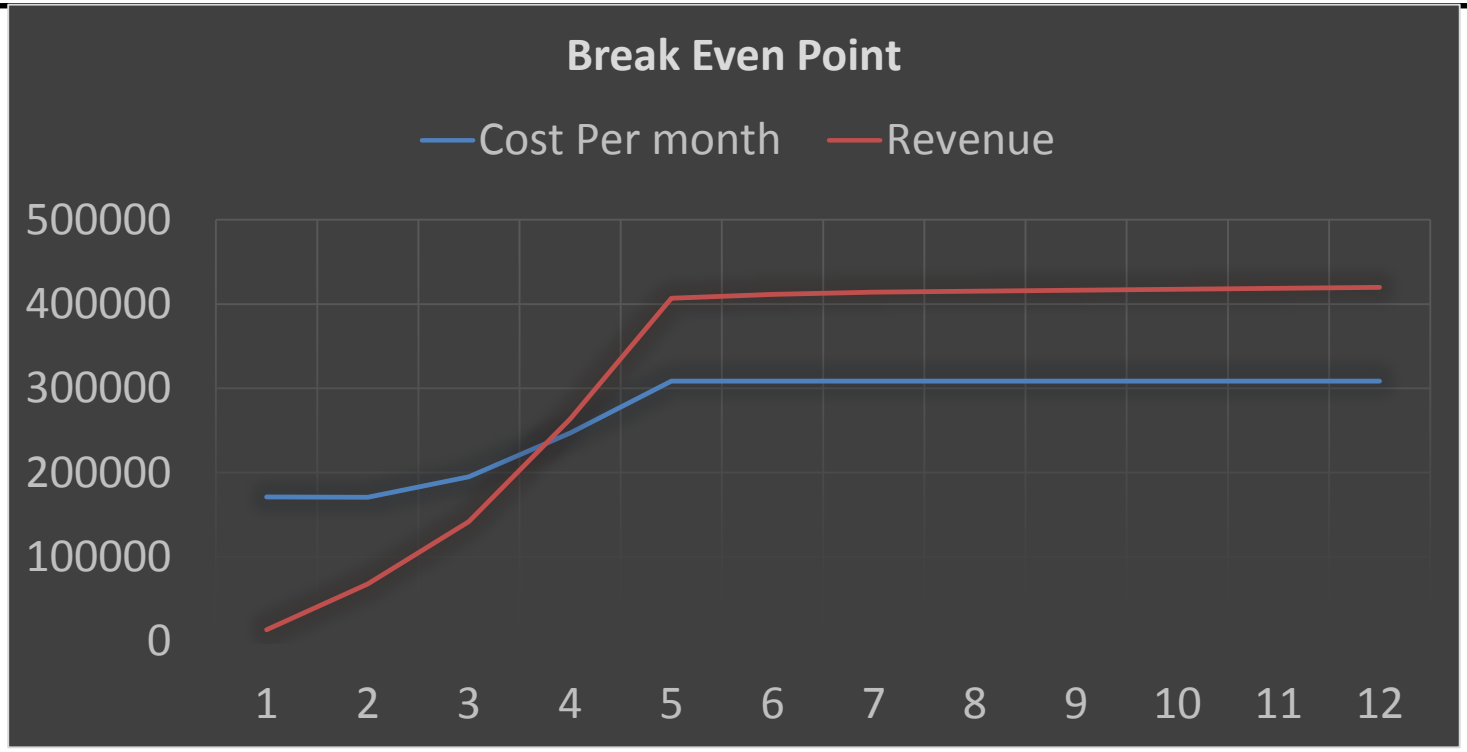
Vehicle has GPS tracker for real time tracking and live update on website and mobile app to make the collection process more effective and efficient. It will help user in setting alarm of 4-10 minutes for vehicle arrival.

Finance for Pilot project of 6000 Households

Initial Capital Cost			
	Unit	Cost per Unit	Sub Total
Registration	1	20000	20000
Technology Dev.	1	100000	100000
Awareness	6000	10	60000
App & Software	1	60000	60000
Mobile Tracker	22	3000	66000
E Cargo	1	200000	200000
Thela Rickshaw	30	5000	150000
Waste Container	70	1500	105000
Shade	1	250000	250000
Grinder	1	20000	20000
Kiln	2	8000	16000
Briquetting Machine	1	30000	30000
Pit	90	3500	315000
Worm	180	250	45000
Net	1	10000	10000
Kudal	6	400	2400
Sewing Machine	1	6000	6000
Motor Pump	1	12000	12000
Pipe	1	4000	4000
Weighing Machine	1	5000	5000
Total Investment			**1476400**

	Average Monthly Expense (12 Months)			
		Unit	Charge	Total
Maintenance	Software and App	1	10000	10000
	Equipment Repair	1	12000	12000
Material Cost	Bio-Gas Unit	10	8000	80000
	Cow Dung	24	500	12000
	Bag	1200	15	18000
	Driver	1	7000	7000
Human Resources	Worker(thela)	25	4000	100000
	worker(cargo)	2	5000	10000
	Worker(Plant)	3	4000	12000
	office Boy	1	6500	6500
	Officials	3	17500	52500
	Supervisor	1	6000	6000
Rent	Office Rent	1	8000	8000
	Electricity	2500	4	10000
	Essentials	1	10000	10000
	Total Expenses			**354000**

Revenue and Break Even Point



Major Average Revenue(12 Months)			
	Unit	Cost	Sub-Total
Waste Collection	6000	Rs30/House	180000
Vermi Fertilizer	60000	Rs3/Kg	180000
Bio-Gas Installation	10	Rs9900/unit	99000
Bio-Gas Maintenance	100	Rs60/Month	6000
Average Revenue/Month(for 1st year)			**465000**

Break Even point is in 6th month considering two months of implementation time, whereas initial investment will be earned back in 17th Months.

Investment Rationale

- What are your funding requirements? How we plan to use the funds?
  - We need to fund to buy equipment, research & development of our products including transportation. We required total of Rs.14,76,400/- for our pilot project.
  - We will make profit through our product selling, consulting and recycling and our profit for current plan is Rs. 115000 per month after break even point.
  - Our three year projections are:

Projections	Year 1	Year 2	Year 3
Customer	6000	12000	24000
Cost	1476400	3000000	7000000
Profit Margin per Month	110000	230000	500000

What next

Phase 1 (0-1.5 year)	Phase 2 (1.5-3year)	Phase 3 (3-4 years)
• Waste collection • Vermi fertilizer • Liquid fertilizer • Bio-Gas • Recycling	• Vermi culture development • Packaging and transportation	• Electricity generation • Recycling plant
	• Drinking water supply and demand • Drinking water analysis • Waste Water analysis	• Water treatment plant • Waste water treatment plant
		• Stack design • Industrial Air Pollution Monitoring and design • Street pollution monitoring

Thank you