



# Allahabad Nagar Nigam & Hari Bhari Recyclable

January 2016



# 1. About Hari Bhari



# About Hari Bhari



- Hari Bhari Recyclables Pvt. Ltd. (*“Hari Bhari”* or *“HBR”*) is a New Delhi, India based Integrated Waste Management company founded by IIT alumni and waste logistics experts.
- **Core focus** on Waste Management
  - Collection & Transport
  - Waste Processing & Recycling
- Management team have spent 5+ years in the Waste Management industry
  - Invested 2+ years in building HBR model and acquiring municipality concessions
- Aim to become the leading and most profitable MSW player in India
  - Target 30 markets or 25% of the Indian Municipal Solid Waste market
  - 40,000 Tons of MSW per day



- Hari Bhari Recyclable Pvt. Ltd. (“HBR”) is a pure-play Municipal Solid Waste (“MSW”) management company
- Vision is to become the largest and most profitable “pure play” MSW company in India with goal to manage 30 municipalities by Year 5
  - Representing 40,000 tons / day or approximately 25% market share
  - Given strong relationships, a reasonable roadmap exists to achieve the goal
- The Indian MSW market remains a large, and still untapped, market opportunity
- HBR is targeting to implement 4 municipalities in 2016-17 to market leadership



# Key Strength



## Using Technology as a strategic tool

- Technology used as a tool to drive operational efficiencies
  - RFID Tagging of households for billing
  - Proof of collection
  - Tracking of collections and in real time
  - Non Incineration based technology (Pyrolysis) for Waste to Energy.

## Focus on Service Delivery & Profit

- Multiple Revenue Streams (Minimum 7 Streams)

## Strong Management Team

- Managed Municipal Solid Waste in 42 cities in Collection & Transport and Plant Operations.



## 2. About Allahabad Project



# Background



- Tender was floated by Allahabad Municipal Corporation for operating the existing Compost Plant on AS IS WHERE AS basis along with Door to Door Collection of Waste and Transportation of the same to the Plant.
- Hari Bhari was selected after protracted discussions & negotiations and a concession agreement was signed on 7<sup>th</sup> July 2015 for following scope of work:
  - **Scope of Work:**
  - Door to door Collection of waste
  - Secondary collection & transportation
  - Operation & Maintenance of existing Compost Plant
  - Setting up of 150 MT/day Concrete & Debris Waste to Interlocking Brick Plant on Build, Own, Operate & Maintain basis
  - Setting up of RDF to Energy Plant (150 MT/day) on Build, Own, Operate & Maintain basis. (Concession Agreement for 30 years).

Area	-	82.18 Sq. Kms.
Population (2010)	-	14.07 Lacs
<hr/>		
Population (2040)-		30.28 Lakhs
Present Population (2010)	-	14.07 Lacs
Population Density		16700 persons/Sq.Kms.
Municipal Wards.	-	80 Nos.
Sanitary Wards	-	20 Nos.
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Present generated solid waste		0.4313 kg./day/person
Total Solid Waste in Allahabad City-		577.58 MT /per days



### 3. Major Initiatives taken in Door to Door Collection of Waste



## DTDC operations

### Waste Generators

- House Holds
- Shops-Commercial/ Semi Commercial Establishments
- Bulk Generators

### Total Waste from DTDC

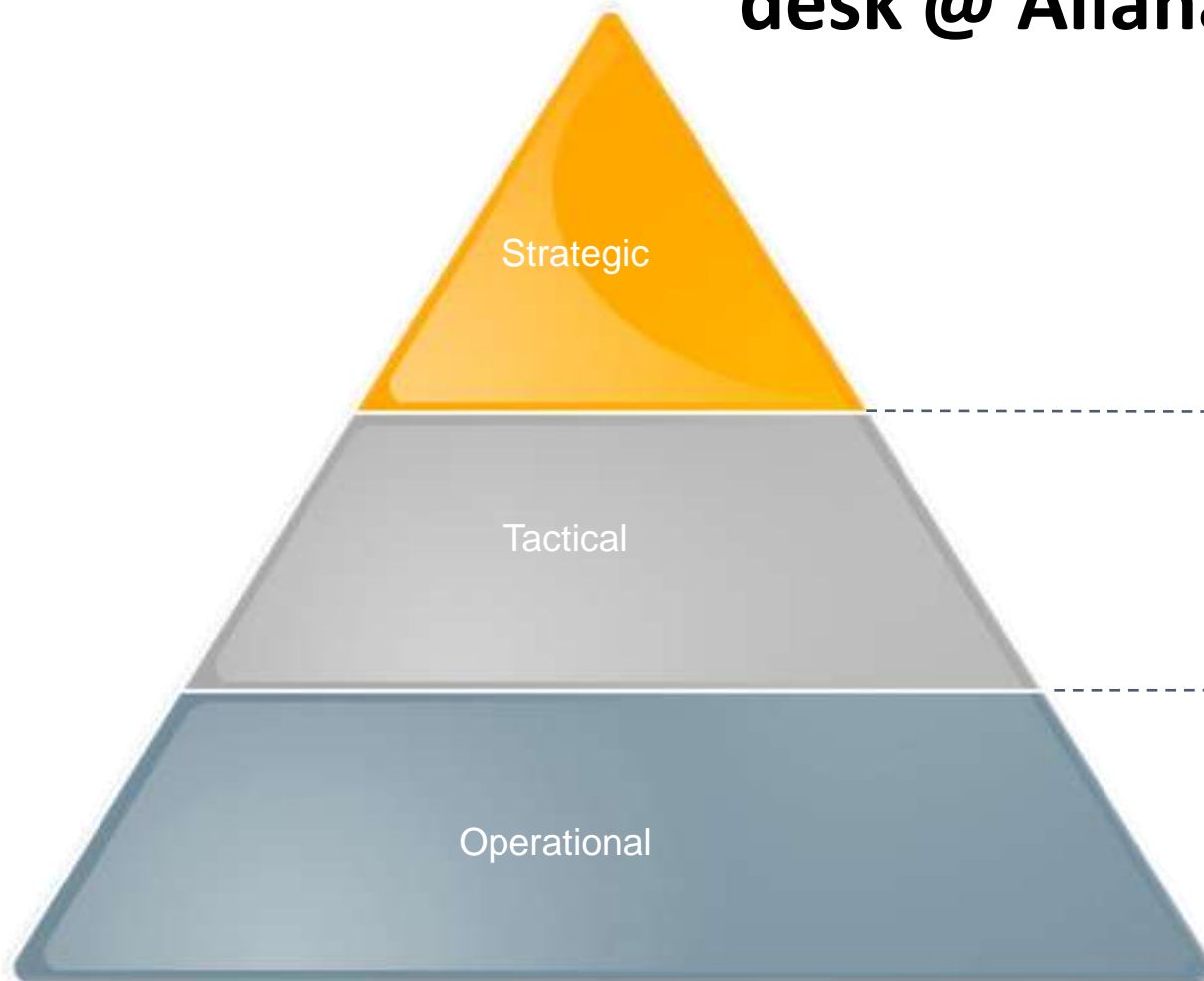
- House Holds/ Shops etc: 400 MT/day
- Bulk Generators like Hotels/ restaurants/ Malls/ Hospitals/ Institutions: 200 MT/day

### Major Bottleneck

- **Recovery of Service Charges**
- **Operations Profitability**



# Providing comprehensive Transportation desk @ Allahabad



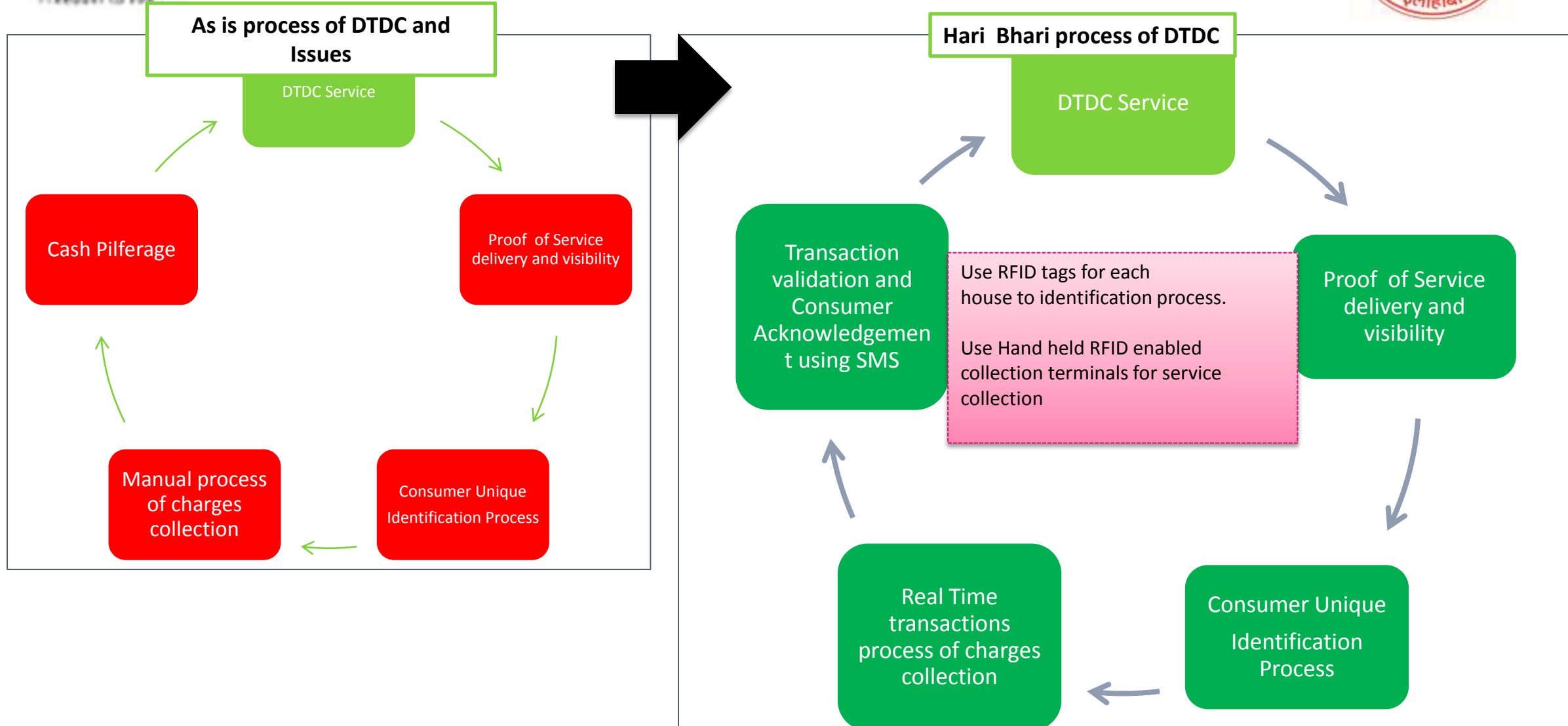
- Recovery Strategy
- Right Pricing & Costing strategy

- Route Planning system
- Managing Work Force Eco System
- Analytics, MIS & Reporting

- Awareness
- Exception Handling
- Cash collection
- Execution & Visibility



# Strengthening Door to Door Process from As IS to Hari Bhari Process





# Re-Engineering success of Door to Door Waste Collection..First time in World

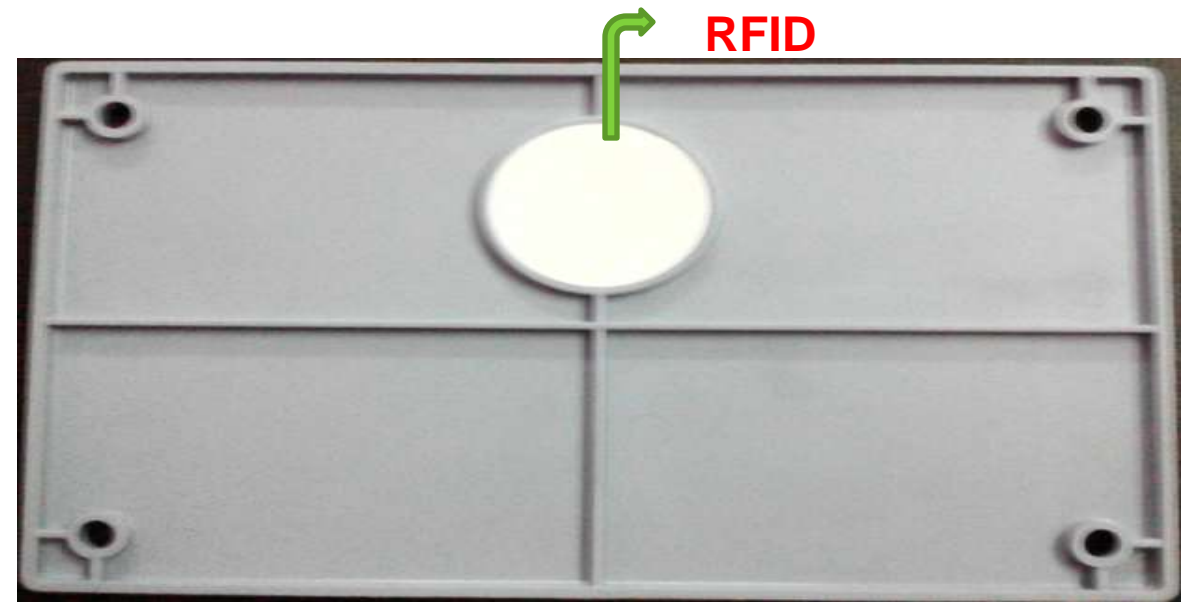


## Right Pricing (User Charge)..First time in India

Allahabad Nagar Nigam has devised a scientific approach to User Charge determination. For the first time Nagar Nigam has introduced User Charge as per actual weight basis for Bulk Generators.

## Proof of Service in Door to Door Waste Collection..First time in World

- Hari Bhari has developed an innovative proprietary solution and is installing RFID tag on every waste generators within the municipal limits.
- Safai Mitra registers attendance using RFID Reader on every Tag before lifting waste.
- This gives Proof of derive delivery, control & visibility.
- Hari Bhari is investing Rs. 6 Crores from it's own source to create this IT infrastructure for the City.





# Operation Cycle





## DTDC Services Process

### RFID enabled wrist watch

We have wrist watch which is a RFID reader operated on battery. Whenever volunteer go to house for picking up waste they use to show their watch with house hold RFID tag and it register all the required details with that device and transfer to our server for further usages.

### DTDC Proof of service RFID reader

RFID tags give unique identification of each collection points and which may be used for identification of the waste being collected at real time basis. Due to its uniqueness we will be able to track each location has been services or not and accordingly it will help us to provide better service to customer. If any location at a given point of time is left un-serviced then it may track and will be processed as a complaint.

### DTDC service charge collection system

To make user charge collection in efficient manner, stop any illegal pilferage of cash and other account reconciliation process easy. We are providing hand held device to our supervisor. This handheld is using same RFID house hold tag to identify house details and their fixed service cost details which they have to pay on monthly basis and we are also able to track their previous month's dues. After making all the transaction supervisor need to sync the device with our server to upload all the data online and deposit the cash to authorized authority.







# How we work

- Door to Door Collection of Waste is being Carried out by Twin Bin Erickshaw/ Auto tippers.
- Hari Bhari is deploying 200 such Vehicles across city
- This work will be done by more than 700 Safai Mitra/ Safai Saheli.
- Hari Bhari has got 30 Partner Licensees, who are being supported by Hari Bhari to become an entrepreneurs under Prime Minister Mudra Scheme. 70 more such Partners are being groomed.

**Hari Bhari Ways**



**Older Ways**



# Attendance through RFID Reader & On line Monitoring/ MIS



**Solid Waste Management System**

Home Admin Operation Billing Dashboard

Attendance Dashboard

Date: 20-01-2016 Ward: All IMEI: All Search

Ward	IMEI	Property Address	Consumer Name	Mobile Number	Attendance DateTime	Map
28-University Area	355287000474274	28-c, 3, 3, Moti Lal N.Road, Tegor Town	Kiran Srivastva	9454695370	20-01-2016 16:20:52	Map
28-University Area	355287000474274	28-d, 3, 3, Moti Lal N.Road, Tegor Town	Vijay Shankar Srivastva	9335905378	20-01-2016 16:20:30	Map
28-University Area	355287000474274	28b, 3, 3, Moti Lal N.Road, Tegor Town	Mali Singh	9839870825	20-01-2016 16:20:20	Map

103.16.143.174/SWMS/Operations/frm\_PropertyMaster.aspx?Page=Property%20Master

**Solid Waste Management System**

Home Admin Operation Billing Dashboard

Property Master

Ward: All Search

Property Type	Ward	House Number	Street Number	Block Number	Landmark	Locality	Pincode	Real Number	Property Size	Map	Created By	Created On	Consumer First Name
Residential-REG	4 - Rajapur	11F	4	4	Near Hje	Mje Ka Madan	211000	481	280	Map	HBHALDC	09-01-2016 05:23:48	
Residential-REG/REGS	4 - Rajapur	11C	4	4	Near Hje	Mje Ka Madan	211000	481	900	Map	HBHALDC	09-01-2016 05:33:47	Mera
Residential-BFL/REGS	4 - Rajapur	100	4	4	Near Hje	Mje Ka Madan	211000	481	200	Map	HBHALDC	09-01-2016 05:23:46	Mohd.
Residential-REG	4 - Rajapur	110	4	4	Near Transform	Mje Ka Madan	211000	481	1200	Map	HBHALDC	09-01-2016 05:23:46	Mohd.
Residential-L30	4 - Rajapur	100C	4	4	Near Transform Gal	Mje Ka Madan	211000	481	300	Map	HBHALDC	09-01-2016 05:33:45	Sah
Residential-REG	4 - Rajapur	51D Near Road	3	3	Rajd Guest House	Rajapur	211001	481	2240	Map	HBHALDC	09-01-2016 05:00:15	Omish
Commercial-Rajpur and	18 - Civil Lines - 5	5A, 5p, Marg	3	3	Sukhesh Chauraha	Civil Line	211001	1001	340	Map	HBHALDC	09-01-2016 05:03:29	Mala
Commercial	18 - Civil Lines - 5	C.S.P. Marg	3	3	Sukhesh Chauraha	Civil Line	211001	1001	300	Map	HBHALDC	09-01-2016 05:03:18	Kabish Kumar

- Once attendance is registered ..it automatically reflects on our server. And Monitoring teams know exactly which houses have been left and can take decision to send back up vehicle.
- Bill is generated automatically based on actual attendance only.
- A 12 hour Toll Free No. is also maintained for Complaint Recording & Resolution

VarNam	PropertyCode	Property Address	1	2	3	4	5	6	7	8	9
-----	-----	-----	-	-	-	-	-	-	-	-	-
1	P201509060001	House No.: gaya, Street No.: gaya, Block No.	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
1	P201509070002	House No.: 56, Street No.: utta, Block No.: d	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
1	P201509080003	House No.: A61, Street No.: First floor, Bloc	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
1	P201509080005	House No.: 99b , Street No.: ashok nagar, Bl	10:49:39	10:15:12	10:12:39	10:12:58	9:50:57	10:29:54	10:08:43	10:16:07	10:21:12
1	P201509090001	House No.: 95, Street No.: 2, Block No.: b, Lc	10:53:59	10:15:58	10:19:44	10:21:17	10:05:10	10:35:19	10:11:16	10:18:19	10:17:10
1	P201509110004	House No.: 210e newada, Street No.: 2, Bloc	13:28:43	11:50:47	11:58:23	11:45:22	10:42:24	12:12:07	11:24:04	11:32:55	11:54:59
1	P201509120008	House No.: 77a/12/4 newada, Street No.: 2,	13:44:24	11:56:56	11:55:21	11:49:55	10:49:41	12:16:01	11:27:52	11:38:13	12:03:10
1	P201509130016	House No.: 8, Street No.: 2, Block No.: 2, Loc	12:39:42	11:26:29	11:25:44	11:28:47	10:38:20	11:39:56	11:09:30	11:07:16	11:33:16
1	P201509140027	House No.: 53, Street No.: 3, Block No.: 3, Lc	12:33:20	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
1	P201509140061	House No.: 47, Street No.: w, Block No.: t, Lc	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
1	P201509160023	House No.: 21a, Street No.: 3, Block No.: 4, L	15:01:44	12:39:52	12:59:34	NULL	11:31:12	12:57:42	12:11:42	12:10:07	12:38:51
1	P201509190009	House No.: 22/37, Street No.: 4, Block No.: 4	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
1	P201509190015	House No.: 26a newada, Street No.: 4, Block	NULL	12:42:47	13:05:43	12:41:06	11:28:02	13:02:29	12:20:18	12:15:16	12:46:08
1	P201509190018	House No.: 26, Street No.: 4, Block No.: 4, Lc	NULL	12:43:11	13:08:12	12:43:14	11:29:45	13:03:07	12:21:34	NULL	12:47:40





# Highlights & New initiatives in DTDC.. Many Firsts



1. For the First Time RFID tagging is being used on such massive scale for proof of service delivery in India & World.
2. For the first time entrepreneurs development program with support of Prime Minister's Mudra Scheme has been deployed in this Industry.
3. For the first time School students are being engaged directly through a structured educational & leadership development program in any City. Hari Bhari is targetting about 50,000 **Waste Warriors** in next 3 months.
4. Development of Modern & scientific Primary collection Centers across 15 locations.
5. For the First Time Revenue sharing agreed with Nagar Nigam by any operator. Hari Bhari has committed to Pay Nagar Nigam Rs. 10 lakhs Per month from Door to Door Revenue.



# Regenesis Foundation- A CSR Wing of Hari Bhari



- Regenesis Foundation – the CSR wing of Hari Bhari is running mobile health clinics & conducts regular health camps in underprivileged parts of cities and provides curative and preventive healthcare service at the door steps with free medicine distribution.
- It is doing IEC Programs in schools & several activities like Nukkad Natak & Candle Rally etc.

