

Behavioural changes in waste disposal-a case study

Abstract

Clean My Transport Nagar is an initiative of Society for Direct Initiative for Social and Health Action, an NGO working on waste management since 1995. The initiative is being implemented with the support of a corporate social responsibility project. The project was launched on 19th August 2016 with a small team of 6 activists. At the beginning it was observed that behavioural pattern of the people was a huge challenge. People such as truckers, shopkeepers, workers of different factories and transporters, vendors etc. were in the habit of throwing their waste anywhere and everywhere in Terminal area. Absence of government initiative or involvement, lack of infrastructural facility, non-functional waste management system, conflicting relation between shopkeepers' association and truck terminal authority, lack of information in terminal, language barrier, dissatisfactory and non-cooperative attitude of the stakeholders were obstacles for fruitful implementation of the project. Various kinds of strategies were used to deal with the situations and an appreciating outcome has been observed within a year.

Keywords: truck terminal, environment, waste management, waste disposal, behavioural change, communication, source segregation, composting, recycling, cleanliness, hygiene

Volume 4 Issue 3 - 2019

Sasanka Sekhar Dev,¹ Niladri Sekhar Ghosh²

¹Secretary, DISHA, India

²Project Coordinator, CMTT-Kolkata Project, DISHA, India

Correspondence: Sasanka Sekhar Dev, Secretary, DISHA, India, Tel 2328 3989, Email sasankadev@gmail.com

Niladri Sekhar Ghosh, Project Coordinator, CMTT-Kolkata Project, DISHA, India, Room No. Q 53, 54 Dhulagarh Truck Terminals, Sankhrail, P.O - Dhulagarh, Howrah, West Bengal 711302, India, Tel 8479888637, Email disha.dhulagarh@gmail.com

Received: February 17, 2019 | **Published:** May 21, 2019

Background

Dhulagarh Truck Terminal is situated in Howrah district near Kolkata, the state capital of West Bengal. It is one of the major transport hubs in West Bengal covering 42 acres (0.169968Sqkm) of land. According to the official database Dhulagarh Truck Terminal is capable to accommodate and ply 6,000 trucks per day. It was inaugurated in 2004 by the joint initiative of the state government and a private company namely Calcutta-Mumbai Truck Terminal Ltd. with a view to develop infrastructural facility of a hub for the trucks carrying various items to and from Kolkata and other adjacent districts of West Bengal. Presence of this terminal and eventual development of Dhulagarh village by the side of Kolkata – Mumbai NH 6, the area gradually became very important. Several large industries including manufacturing units were set up around the area in course of time. Inside the terminal area, offices of the transport companies were hosted. A large shopping complex was established inside the terminal area. A large wholesale vegetable market grew up at the back end of the terminal area.

As livelihood opportunities increased, a large number of workers—permanent, semi-permanent, casual, informal, migrant started visiting Dhulagarh Truck Terminal. They eventually started generating and disposing various kinds of waste. As the combination is largely heterogeneous, any consistent, organised pattern of disposal of waste was not expected from them. When most of them are just visitors, having least attachment to the area, they also did not expect clean and tidy surroundings. As the Truck Terminal has been controlled by its own Authority, all the infrastructural and municipal services in this large area was supposed to be provided by them. In course of time local Panchayet started some municipal services in the adjacent villages. But the Truck Terminal continued to remain independent and such services were never available inside the area. Though the Terminal started as a joint venture, any involvement or intervention of any department of government was not conspicuous.

Gradually the services provided by the Authority of the terminal could not cope up with its growing pressure of increasing population and business activities. The drainage services were broken. Waste was littered anywhere and everywhere. All the public toilets were in broken and dilapidated condition. Those became unusable. Open urination and defecation became a common practice. In July 2016, a corporate agency identified this Terminal for conduction of a waste management project under Corporate Social Responsibility. They collaborated with Society for Direct Initiative for Social and Health Action. The project was named as “Clean My Transport Nagar – Kolkata” and was launched on 19th August 2016.

Problems identification

CMTN-Kolkata project started with a small team of 6 activists. At the beginning it observed that behavioural pattern of the people was a huge challenge. People such as truckers, shopkeeper, workers of different factories and transporters etc. were in the habit of throwing their waste anywhere and everywhere in Terminal area. Not only that, they even did not have idea about the location of existing public toilets or were not bothered about that. Open urination and defecation were common. Not a single shop had any waste bin. Apart from visual ugliness of the terminal area, dissatisfaction prevailed among the stakeholders regarding lack of services available from the Terminal Authority. There were common allegations of the stakeholders regarding non-cooperative attitude of the Terminal authority. Ideological mismatch between shopkeeper association and truck terminal authority were also a big challenge for CMTN-Kolkata project. Up to end of the October, 2016 nearly two months were spent to find the reasons behind this situation. Personal interactions were made in different levels. The CMTN-Kolkata team representatives talked to terminal authority and staff, ware house owners, transport agencies, shopkeepers, owners, and their associations, Panchayet Pradhan of the area and other government officials and even waste pickers etc. Interactive method was applied for situation analysis. Numbers of interactions held were as follows (Table 1):

Table 1 Interaction held with the persons

Interactions held with	No of Persons
Terminal authority and staffs	20
Panchayet Pradhan and PRI Staff	6
Shopkeepers, ware house owners, transport agencies etc.	80
Waste pickers	4
Waste vendors	2

As a result of interactions the following points were noticed:

- 1. Absence of government initiative or involvement:** Though the Terminal started as public private partnership (PPP) project, presence of any government department is absent. Though Dhulagarh Panchayet is aware about this Terminal but any regular interaction or communication does not exist. At present the Truck Terminal runs almost under private ownership. Shops and warehouses are owned by shop owners or transport agencies individually but operational management of the Terminal is completely conducted by the Calcutta Mumbai Truck Terminal Ltd.
- 2. Lack of infrastructural facility:** Infrastructural maintenance of the Terminal is very poor. Most of the drains are broken. Flow of sewerage is often disturbed. Drains get clogged by water and plastic waste often at several nodes. Toilets are there but most of those are in dilapidated condition.
- 3. Non-functional waste management system:** Waste management has never been an agenda in this Terminal. However some cleaning services were supposed to be given. But that too was scarce. Lack of human resource in maintenance and lack of priority often resulted in heaps of scattered waste all around.
- 4. Conflicting relation between shopkeepers' association and truck terminal authority:** Shopkeepers are providing maintenance charge to terminal authority. They allege that the services were never adequate. But shop keepers themselves could take some initiative, at least, setting up of bins in front of their shops. But they never did. Conflicting relationship overwhelmed and reciprocated resulting to reduced services.
- 5. Lack of information in Terminal:** Lack of information is majorly responsible for open urination and defecation. Obviously toilets were not in proper condition. But whatever there are, are not known to many of the visitors. They do not know where the existing toilets are.
- 6. Language barrier:** An important challenge that was to be faced is the language barrier. For any reason, most of the truckers who ply through this Truck Terminal belong to different states of South India – Andhra Pradesh, Tamil Nadu and Kerala. There languages are *Telugu*, *Tamil* and *Malayalam* respectively. They do not know English or Hindi. On the other hand, in West Bengal and particularly in Dhulagarh, rarely people know these languages. So it was a challenge to communicate with them.
- 7. Dissatisfactory and non-cooperative attitude of the stakeholders:** Absence of awareness and cultural identity among the truckers whose life style is mostly devoid of discipline and civilized practices.

Strategy applied

After identification of the problems, analysing the situation, following strategies were applied to sort out the problems (Table 2).

Table 2 Application of strategy

Problem	Strategy
Absence of government initiative or involvement	CMTN Kolkata Project team started regular communication with terminal authority, local Panchayet office (Panchayet Pradhan, Executive officer of Panchayat), Land and Land Revenue Officer, Agricultural Development Officers, Deputy Director of Agriculture, District Horticulture Officer etc. Some of them directly participated in various programmes organised by the team inside the Terminal. Others extended cooperation and ensured support from outside. Terminal authority has also been convinced that involvement of these government departments will be beneficial to the Terminal itself.
Lack of infrastructural facility	The issue has been brought to the notice of the terminal authority as well as to all the stake holders. Examples were set up by cleaning some nodal points of drainage system when terminal authority also took initiative to clean all other nodal points of the drainage system. Stake holders took steps to renovate some of the toilets to make those usable. Some waste bins were contributed by them to facilitate waste disposal.
Non-functional waste management system	<p>Communications initiated with the staff of maintenance department of the Terminal authority in daily basis</p> <p>Ensuring their engagement in the planning</p> <p>Daily sweeping of a certain area of the Terminal introduced</p> <p>Shop to shop waste collection was started to stop littering</p> <p>Water sprinkling before sweeping was introduced to avoid flying and spreading of dust</p> <p>Shops and people were motivated for source segregation</p> <p>5 pairs (Wet and Dry) waste bins were set up in different locations of the Terminal and stakeholders were motivated to install more common bins apart from setting up of their own bins.</p> <p>Beautification of truck terminal taking initiative of gardening inside the pilot area</p> <p>Organic composting has been introduced to utilize wet waste</p> <p>Periodical sales of recyclable valuable waste to vendors</p> <p>Arrangement made with the Terminal authority for periodic disposal of the non-degradable and non-recyclable waste in selected ground to fill low lands.</p>

Table Continued

Problem	Strategy
Conflicting relation between shopkeepers' association and truck terminal authority	Efforts taken to arrange common meetings from time to time with participation of both terminal authorises and the important personnel of shopkeepers' association to develop understanding for betterment of civic services of the Terminal.
Lack of information in Terminal	Display boards were fixed to let people know about the direction of the toilets to stop open urination and defecation. Authority was sensitized regarding the poor condition of the toilets. Stakeholders came forward to stop such bad practices. They started taking care of promoting more use of the toilets. Daily awareness generation programmes were continued through one to one and one to group interactions with truckers, shop keepers, waste pickers, association members, terminal authorities etc with the help of different placards with simple languages like "Please keep this area clean", "stop littering - dispose your waste in bins", "stop nuisance - practice hygiene" in five different languages i.e, Telugu, Tamil, Bengali, Hindi and English. Translations in Tamil and Telugu were made with the help of literate truckers. As there were considerable number of illiterate truckers, in spite of carrying placards, group discussions were arranged where the literate truckers took initiative to convince their fellow truckers to follow the words of the placards and act accordingly. Transport agencies were convinced to display such placards of different languages in their offices / ware houses so that the truckers may go through those even in their leisure hours.
Language barrier	Language barrier not only means a literal issue but also a cultural and behavioural gap which exists among the truckers. To overcome this gaps, various kinds of methods were applied to influence their psycho-behavioural pattern such as: Holding of general quiz competitions on hygiene and environmental issues and sometimes special quiz contests on their understanding after observation of a special day or a documentary film show Holding of games like separating wet and dry waste from mixed waste Holding demonstration of home based waste management, organic composting and beautification of surroundings Holding competition for best speaker on waste management strategy, personal and social hygiene practices etc.
Dissatisfactory and non-cooperative attitude of the stakeholders	Holding of regular interactions, communications and time to time meetings among the stakeholders especially shopkeepers, terminal authority and transport agencies to involve them in the planning process and collect feedback and suggestions Taking special care for the persons who had negative understanding about the CMTN-Kolkata project initiative.

Few Facts and figures from 19th August 2016 to 30th June 2017:

- A. Working days: 316 days out of 316 days
- B. Human resource:
 - i. Aug 16 – March 17: 6 (1 Project Coordinator, 1 Supervisor and 4 Waste collectors)
 - ii. April 17 – June 17: 7 (1 Project Coordinator, 1 Supervisor, 4 Waste collectors and 1 gardener) (Table 3).

Table 3 Few facts and figures from 19th August 2016 to 30th June 2017

Name of the activity	No. of activities held	No. of participant/ person
Networking with govt. official	28 (Times)	-
Services of sweeping street	316 days (Out of 316)	-
Total – Waste removed from field	20092 Kg	-
Biodegradable waste	3815.5 Kg	-
Non Biodegradable	16276.5 Kg	-
Drain Silt removed	18216.5 Kg	-
Value waste segregated	602 KG	-
Manure collect from compost unit	Drum - 2.5 KG Vermi-compost- 76 KG	-
Single and group interaction	316 days	2427
Activity such as special day celebration and awareness creation through documentary film shows, best speaker competitions, quiz competitions, demonstrations on home based composting etc.	13	1030
Meetings with maintenance department	5	32
Monthly meetings of project team	11	Team members
Trainings accomplished	3	Team members
Meetings with stakeholders	3	35
Communications with terminal authority	316 times	-

Outcome

Taking up the above mentioned strategies and activities following outcomes have been observed:

1. Gradually the volume of waste collected from the ground has been decreased
2. 1 pilot street along with 2 by-lanes and 5 drainage system remain clean

3. Terminal authority and Shopkeeper Association are now on same platform to discuss terminal related issues
4. Not only behavioural approaches of stakeholders have been improved but also they providing guidance
5. Truckers have stopped to throwing bottles and other wastes from trucks to here and there. They are now using waste bins.
6. Shopkeepers have stopped to throw the waste in the streets. They prefer to keep the waste in a selected container. Some of the shopkeepers are practicing segregation also.
7. Interest of general people towards Waste Management has been increased. Now the beneficiaries frequently visit the project office to share their feedbacks and suggestions.
8. The stakeholders contributed 4 plastic drums of 260 litre to use as community waste bins (value of each drum around Rs.1,000)
9. Apart from acceptance, participation and engagement of Panchayat, block and district level government officials have also shown their interest in the project activity. Two important outcomes for networking and advocacy with government level officials are as follows:
 10. Assistant Director of Agriculture has taken personal initiative and issued a special order for soil test of the area selected for gardening under the project
 11. District Horticulture Officer showed his interest to guide the project to prepare a beautiful garden.

Acknowledgments

None.

Conflicts of interest

Author declares that there is no conflict of interest.

References

1. Ronald Yesudhas, Lidwin Dias, Laavanya PV. *Methodologies in Social Research*. Rawat Pubns, India. 2017.
2. GK AGRAWAL. *Social Research Methods*. SBPD Publishing House, India. 2015.
3. Kirti Gupta. *Research Methodology*. Nirali Prakashan, India. 2013.
4. Mangal SK. *Research Methodology in Behavioural Sciences*. Prentice Hall India Learning Private Limited, India. 2013.