



Action Plan For Solid Waste Management

Tarikere Town Municipal Council
Tarikere -577228
Chickmangalur District
Phone number (08261)223933
Date of Submission 07-07-2006

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Name of the ULB : TARIKERE TOWN MUNICIPAL COUNCIL

Type of Municipal Body : Town Municipal Council

Population (2001) :

| | | | | | | |
|---|---|---|---|---|---|---|
| 0 | 0 | 3 | 4 | 0 | 7 | 3 |
|---|---|---|---|---|---|---|

Present Population :

| | | | | | | |
|---|---|---|---|---|---|---|
| 0 | 0 | 3 | 8 | 0 | 0 | 0 |
|---|---|---|---|---|---|---|

Area : 15.00 Sq. km

Number of wards : 20 number

Number of houses : 7396 number

Total road length : 41 kms

Waste generated : 13 tones per day

Data used for Action Plan

is updated as on :

| | | | | | |
|---|---|---|---|---|---|
| 2 | 2 | 0 | 6 | 0 | 6 |
|---|---|---|---|---|---|

Template for preparing action Plan for Solid Waste Management....

CMAK had taken up a study to formulate a template to prepare Action Plan for Solid Waste Management . This template is the simplest made possible , framed as per the State Policy for solid waste management prepared by the GoK in consultation with Directorate of Municipal administration & this is ready .As a case study CMAK choose Rajarajeshwari Nagar (RRN) city Municipal Council for which a brief action Plan for Solid waste Management was prepared . This template is derived from the RRN Action Plan report . This template is very brief in structure and covers all the aspect of action plan.

Mentor

Mr.Nilaya Mitash I.A.S , Director of Municipal Administration was kind enough to provide the mentorship for this study. He is been constantly involved in this study guiding the whole process to frame this template in the most simplest and ready form so that any ULB can prepare their Action Plan with out technical skills or expertise.

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Guidelines for filling the template:

This template is being prepared to

1. Please read the instruction sheet before filling the template.
2. Attach the supporting tables and maps where ever mentioned.
3. Follow the instruction given in brackets.
4. Read the “ Instruction to follow “ before filling the related topic.
5. Remove all the sentences in italic , italics in brackets & foot note at each page before submitting the same to the DMA Office.
6. Write the validity date & its source at the bottom of each in the given space.
7. Signature of the SWM activity in charge & Commissioner is must at the last page

1. Introduction

Tarikere town is a Taluk headquarter situated in Chickmangalur district on either side of national highway 206 (Banglore –Honnavaara).Agriculture and Horticulture products are the main source of income for Tarikere town. Tarikere is an important trading centre for Areca and Betel leaves

2. Objectives

1. To consolidate the information on the existing system of solid waste management.
2. To detail the action plan for solid waste management in conformity with the Integrated State Policy on solid waste management and the MSW rules 2000.
3. To provide a document which would be used for procurement of equipment and services for implementation of the integrated solid waste management system and provide a baseline for all future plans for solid waste management for the city.

3. Project Methodology

1 A template for data collection from Tarikere TMC was prepared. The data was collected from Health and administrative section. Frequent field visits were done to check the present status of solid waste management and for data collection

2 Preparation of action plan involved the following steps

- Study of municipal solid waste (management and handling) Rules 2000
- Referred the solid waste management state policy prepared by DMA and KUIDFC for preparing the action plan
- Prepared a rough action plan by discussion with Chief officer

3 Proposed a feasible solid waste management system

4. Profile of Tarikere TMC

Date of formation of the Municipal Body:

| | | | | | |
|---|---|---|---|---|---|
| 2 | 1 | 0 | 8 | 4 | 8 |
|---|---|---|---|---|---|

dd/ mm/ yy

Type of City or town: It's Commercial as well as Pillgrim centre

Table 1: Salient feature of the Tarikere Town



| | |
|---|--|
| Population (Present) | 38000 Number |
| Area spread | 15.00Sq.Km |
| Connectivity from nearest major center | Road: 50km from Chickmanglur Rail: -240 km from Banglore Air:- Nil km Sea:- Nil km |
| Growth potential | At the rate of 25% |
| Main tourist spot | 1) Kemmanugundi (36 km) 2)Bhadra wild life Sanctuary (25) 3)Baba Buddan Giri (50km) 4)Hebbe falls (46 km) 5)Kalhathigiri (23 km) |
| Annual Rainfall | 734.75mm |
| Temperature | Min: 12 °C Max: 38 °C |

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Source for the data:By Survey

| Ward No. | Population(a) | Area (sq.km) (b) | Households (include all khata and non-khata households) | | Density of population (persons per sq.km) (a/b) (Calculate the value using the above equation) | Shops | Choultry | Theater | Hotel | Industry | Apartments | Hostels and institutions | Meat Shop/ slaughter houses | Markets | | Temple | Drain length (Km) | | Road length (Km) | Dustbins | | |
|----------|---------------|------------------|---|---------------------|--|-------|----------|---------|-------|----------|------------|--------------------------|-----------------------------|---------|---------|--------|-------------------|-------|------------------|----------|---|---|
| | | | Slum / BPL Households | Non slum Households | | | | | | | | | | veg | Non Veg | | Covered | Open | | A | B | C |
| 01 | 1153 | 1.8 | 108 | 252 | 640.5 | 84 | - | 2 | 7 | - | - | 3 | 4 | - | 1 | 4 | - | 2.52 | 4.06 | 3 | 4 | 1 |
| 02 | 1297 | 0.17 | 83 | 188 | 7584.7 | 116 | - | 1 | 5 | 3 | - | 3 | 5 | 1 | 1 | 2 | - | 1.38 | 0.75 | 2 | 5 | - |
| 03 | 3237 | 1.27 | 104 | 243 | 2548.8 | 47 | - | - | 4 | 8 | - | 4 | 1 | - | - | 2 | - | 2.58 | 2.18 | 2 | 2 | 3 |
| 04 | 4891 | 3.3 | 108 | 252 | 1482.1 | 09 | - | - | 2 | 2 | - | - | - | - | - | 3 | - | 0.2 | 1.93 | - | 3 | 4 |
| 05 | 1162 | 0.1 | 135 | 315 | 11620 | 38 | - | - | 4 | - | - | - | 4 | - | - | 3 | - | 2.94 | 1.67 | 2 | 6 | 2 |
| 06 | 1537 | 3.4 | 184 | 428 | 452.1 | 16 | - | - | 2 | 1 | - | - | - | - | - | 2 | - | 1.1 | 4.88 | - | 4 | 3 |
| 07 | 2902 | 0.9 | 128 | 300 | 3224.4 | 24 | - | - | 6 | 2 | - | 3 | 1 | - | - | 5 | - | 3.6 | 3.65 | - | 5 | 4 |
| 08 | 1588 | 0.06 | 82 | 194 | 24812.5 | 24 | - | - | 4 | - | - | 4 | - | - | - | 4 | - | 1.62 | 0.84 | - | 4 | 5 |
| 09 | 1311 | 0.22 | 93 | 217 | 5980.8 | 28 | 2 | - | 3 | - | - | 4 | - | - | - | 5 | - | 4.79 | 3.4 | 2 | 5 | - |
| 10 | 1159 | 0.07 | 77 | 177 | 17667.7 | 81 | 2 | - | 10 | - | - | 2 | 1 | - | - | 4 | - | 4.167 | 2.7 | 2 | 6 | 1 |
| 11 | 1199 | 0.5 | 88 | 187 | 2398 | 2 | 1 | - | 1 | - | - | 2 | - | - | - | 5 | - | 2.136 | 1.1 | - | 5 | 6 |
| 12 | 1274 | 0.07 | 102 | 214 | 18517.4 | 3 | - | - | 0 | - | - | - | - | - | - | 3 | - | 2.322 | 1.2 | 1 | 5 | 2 |

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Source for the data:By Survey

| Ward No. | Population(a) | Area (sq.km) (b) | Households (include all khata and non-khata households) | | Density of population (persons per sq.km) (a/b) (Calculate the value using the above equation) | Shops | Choultry | Theater | Hotel | Industry | Apartments | Hostels and institutions | Meat Shop/ slaughter houses | Markets | | Temple | Drain length (Km) | | Road length (Km) | Dustbins | | |
|--------------|---------------|-------------------|---|----------------------|--|------------|----------|----------|-----------|-----------|------------|--------------------------|-----------------------------|-----------|-----------|-----------|-------------------|-------------|------------------|-----------|-----------|-----------|
| | | | Slum / BPL House-holds | Non slum House-holds | | | | | | | | | | veg | Non Veg | | Covered | Open | | A | B | C |
| 13 | 1262 | 0.56 | 186 | 370 | 2253.5 | 9 | - | - | 2 | - | - | 3 | 1 | 1 | 5 | 5 | - | 3.93 | 2.3 | - | 4 | 6 |
| 14 | 1229 | 0.09 | 90 | 188 | 13655.6 | 6 | - | - | 1 | - | - | - | - | 1 | 3 | 3 | - | 1.92 | 1.0 | - | 4 | 2 |
| 15 | 1253 | 0.04 | 91 | 212 | 31325 | 6 | - | - | 2 | - | - | 1 | - | - | 3 | 3 | - | 1.75 | 0.9 | 2 | 5 | 1 |
| 16 | 1681 | 0.06 | 82 | 191 | 28016.6 | 28 | - | - | 5 | - | - | 3 | - | - | 2 | 2 | - | 1.99 | 1.0 | - | 4 | 3 |
| 17 | 1522 | 0.2 | 100 | 234 | 7610 | 3 | - | - | 3 | - | - | 3 | - | - | 3 | 3 | - | 3.16 | 1.71 | 2 | 3 | - |
| 18 | 1377 | 0.5 | 138 | 323 | 2754 | 1 | - | - | 1 | - | - | - | - | 1 | 1 | 1 | - | 2.44 | 1.22 | - | 6 | 2 |
| 19 | 1250 | 0.1 | 108 | 253 | 12500 | 7 | - | - | 3 | - | - | 3 | - | - | 4 | 4 | - | 2.81 | 1.7 | 1 | 6 | 1 |
| 20 | 1782 | 1.6 | 173 | 398 | 1113.75 | 7 | 1 | - | 4 | - | - | 5 | 1 | - | 1 | 1 | - | 4.45 | 3.0 | - | 4 | 4 |
| Total | 34066 | 15.01 | 2260 | 5136 | | 539 | 6 | 3 | 69 | 16 | - | 43 | 18 | 18 | 64 | 64 | - | 51.8 | 41.2 | 20 | 90 | 52 |

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|---|---|---|---|---|---|

Source for the data:By Survey

| Table 3: List of declared and undeclared slums in the ULB (fill in the following table) | | | | |
|--|------------------------|-------------------------|----------------------|----------------------------------|
| Ward number | Name of the slum | Population (in nos.) | Number of Households | Type (declared / undeclared) |
| 1 | Lal Bagh | 92 | 23 | Undeclared |
| | Dodakere A.K Colony | 390 | 85 | Declared |
| 2 | Dibbadahatti | 450 | 95 | Declared |
| 3 | Ambedkar Nagar | 504 | 126 | Undeclared |
| | Upparabasavanahalli | | | Declared |
| 4 | Haliyur | 1544 | 386 | Undeclared |
| | Bovi Colony | | | Declared |
| 5 | - | - | - | - |
| 6 | Ashraya Layout | 1000 | 250 | Declared |
| 7 | Galihalli Layout | 220 | 50 | Undeclared |
| 8 | Khajibeedi | 146 | 35 | Undeclared |
| 12 | Chowdeshwari Devastana | 475 | 75 | Declared |
| | Chowdeshwari Colony | 1050 | 175 | Declared |
| 13 | Nagappa Colony | 2400 | 400 | Declared |
| | Bapuji Sweepers Colony | 900 | 150 | Declared |
| 14 | Govindappa Colony | 232 | 58 | Undeclared |
| 17 | Vasappa Colony | 1050 | 175 | Declared |
| 19 | Tudipatee A.K | 425 | 80 | Declared |
| 20 | Thyagaraja Nagar | 405 | 89 | Declared |
| Total | | 11286 | 2252 | |

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| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data:By Survey

5. Population Growth and Density

Total Area of the city or town: 15.01 Sq. km

Total population residing in the city or town: 38,000 no's

Floating population: 2,000 no's (Approximately)

Tarikere taluk is the headquarters of taluk Sub division surrounded by major tourist spots like Kemmangundi , Amrithapura, and Bababudangiri

Table 4: Population growth in the ULB



| Census year | Population (numbers) (a) | Area (sq.Km) (b) | Gross Density (Persons / sq.Km) (a/b) |
|---------------------------|--------------------------|------------------|---------------------------------------|
| 1991 | 25371 | 10.1 | 2511.98 |
| 2001 | 34073 | 15.01 | 2270.00 |
| Present year's population | 38000 | 15.01 | 2531.65 |
| 2010 | 45759 | 17.0 | 2691.70 |
| 2014 | 50509 | 19.0 | 2658.37 |

6. Socio Economic Characteristic

The city is located at a distance of 40Km from Kemmangundi which is one of the major hill stations near by, surrounded by religious places like Amruthapura, & Bababuddangiri .

Table 5: Land use pattern

| | |
|--------------------------|--|
| Total Households | 7115 nos. |
| Commercial Establishment | 539 nos. |
| Industries | 16 nos. |
| Slums | Declared: 10 no. Undeclared: 07 no. |

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| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data: By Survey

7. Credibility Building phase of Nirmala Nagara Yojane

Under Credibility building phase of Nirmala Nagara Yojane,

- Number of Awareness programme conducted for schools: Nil number
- Number of Awareness programme conducted for general community: Nil number
- Number of Trainings programmes/workshops conducted for internal municipal Staff : nil number
- Number of workshops conducted for elected representatives: Nil number

Attending of Complaints:

As such no complaint register is maintained for attending the complaint .All the complaints are taken orally or by Phone . All the complaints are attended within a minimum period of one day and a maximum period of 4days . No special help line system is available only the existing telephone system is used .

Table 6: Number of groups identified under SJSRY Scheme.

| Number of | | | | | |
|-----------|-----|---------------|-----|-------|-------------------------------|
| NGOs | RWA | Stree Shakthi | TCG | RGYSS | If any other (please specify) |
| 4 | - | 30 | 33 | - | - |

Details I: Present Solid Waste Management System

8. Present scenario of Solid Waste Management Status

The Major components of Solid Waste Management are:

1. Composition of municipal solid waste
2. Participation of stakeholders
3. Source Segregation
4. Primary Collection
5. Secondary Storage
6. Secondary Transportation
7. Processing and Disposal
8. Problems faced by the ULB during implementation of present SWM system in their city or town.

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|---|---|---|---|---|---|
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|---|---|---|---|---|---|

Source for the data:By Survey

8.1 Type of Waste generated

Total quantity of waste generated in a day: 02 tonnes per day.

Table 7: Quantification of solid waste transported in the city or town – based on atleast one week cycle

| Vehicle type | Vehicle number | Number of trips in a day | | | | | | | Average Quantity of Waste Carried Per trip in tones | Total waste Transported by the vehicle in a day |
|--|----------------|--------------------------|-----|-----|-----|------|-----|-----|---|---|
| | | Sun | Mon | Tue | Wed | Thur | Fri | Sat | | |
| Tractor –Trailer 1 | KA-18 G-3068 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 1.50 | 28.5 |
| Tractor –Trailer 2 | MYC 4689 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 1.25 | 23.75 |
| Tractor –Trailer 3 | MEC 4455 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 1.25 | 23.75 |
| Twin Container Dumper placer | | | | | | | | | | |
| Single Container Dumper placer | | | | | | | | | | |
| If any other vehicle (specify the type like tipper etc., | | | | | | | | | | |
| Total | | 76 | | | | | | | | |
| Average waste transported per day | | 12.5 tones | | | | | | | | |

Estimation of source wise Waste generated per day

Table 8: Estimation of source wise waste generation in a day.

| Sno | Type of Waste Generator | Total number | Unit quantity of waste generated by type of waste generators | Total quantity of waste generated per day |
|--------------------------------|---------------------------------|--------------|--|---|
| 1 | Non-Slum Households | 5136 | 1.25 | 6.24 |
| 2 | Slum Households | 2260 | 1.0 | 2.62 |
| 3 | Commercial shops | 539 | 1 | 0.539 |
| 4 | Small Hotels | 69 | 5 | 0.345 |
| 5 | Markets (small) | 8 | 10 | 0.08 |
| 6 | Weekly market | 1 | 3000 | 0.4 |
| | Choultries | 6 | 175.1 | 0.175 |
| 7 | Hostels | 4 | 15 | 0.06 |
| 8 | Institutions | 43 | 1 | 0.043 |
| 9 | Boarding & lodging centers | 4 | 25 | 0.1 |
| 10 | Vegetable shops | 8 | 5 | 0.04 |
| 11 | Meat shops | 18 | 3 | 0.054 |
| 12 | Slaughter House | 1 | 10 | 0.01 |
| 13 | Municipal waste from Industries | 16 | 1.0 | 0.016 |
| 14 | Theater | 3 | 5 | 0.015 |
| Total | | 8114 | 3083.5 | 10.56 |
| Construction waste | | 0.2 | | |
| Waste from floating population | | 0.2 | | |
| street sweeping waste | | 1.5 | | |

Calculation of waste as per generation rate

| Present population of the city/ town (a) | Waste generation/ day/capita (b) | Total waste generated per day in TPD (a * b) |
|---|-------------------------------------|---|
| 38000 | 0.289 | 11 |

Composition of waste generated:

Organic waste: 8.45 tonnes per day

Inorganic waste: 3.64 tonnes per day

Recyclables: 0.78 tonnes per day

Household hazardous waste: 0.13 tonnes per day

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| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data: By Survey

8.2 Participation of Contractors & their Performance

Total number of wards: Twenty number

Number of wards outsourced: - Nil number

Number of wards managed by the ULB: Twenty number

List of SWM activities that are outsourced : Hired the workers for street sweeping ,drain cleaning , Tractor drives activities.

Number of contractor's workers allotted for,

Street sweeping: Fifteen number

Primary collection of waste: Nil number

Storage: - Nil number

Treatment: -Nil number

Disposal : - Nil number

8.3 Segregation

Segregation is not practiced in town at present . All waste (organic, inorganic) are collected & dumped together in community bins, from the community bins, the waste is collected & disposed .

8.4 Primary collection

Total quantity of waste collected in each day: thirteen tonnes per day.

No primary collection is done to collect waste from households, commercial establishment & bulk generators at the point of generation waste are dumped into community bins .

8.4.1 Community Bin System for Primary collection of Waste

Total number of community bins located in the city or town: 160 numbers

| Type 'A' | Type 'B' | Type 'C' |
|----------|----------|----------|
| 20 | 90 | 50 |
| Total | 160 | |

8.5 Street Sweeping

Few roads are swept daily ,few are once in 2 days and rest of the road is once in a week . The road details are attached in Annexure 1.

8.5.1 Desiltation of Roadside drains

Frequency of desilting the road side drains: two times per year.

Frequency of desilting major storm water drain two times per years.

1. Sewers: - No Under Ground Drainage system

2. Major storm water drains:

Process adopted of desilting : No separate Storm water drain .Strom water flows in sewage drains .

3. Roadside drains with sewage flow: 51.788 kms

Process adopted of desilting: On alternate days done manually along with street sweeping by ULB pourakarmika .

Silt disposal

The silt and waste removed from drains is collected together with households waste in tractors and disposed in the outskirts of the city in vacant land .

8.6 Secondary Storage

There is no secondary storage containners used by ULB. The waste from individual houses is dumped into community bins and conservancy site . The waste is then loaded into tractor and then taken to outskirts of the city for for disposal.

8.7 Transportation

Quantity of waste transported per day Thirteen Tones per day.

Average lead to the landfill site 3 Kms

Types of vehicular fleet available with the ULB:

| Sl.No. | Type of vehicle & Regn.No. | Year of purchase / contract vehicle | Carrying capacity (Tons) | No.of Trips (No.) | Total quantity transported (Tons) | Condition of the vehicle |
|--------------|----------------------------|-------------------------------------|--------------------------|-------------------|-----------------------------------|--------------------------|
| 01 | TT KA -18 G-3068 | 2000 | 1.5 | 3 | 4.5 | Good Condition |
| 02 | TT MYC 4689 | 1994 | 1.25 | 3 | 3.75 | Ok |
| 03 | TT MEC 4455 | 1986 | 1.25 | 3 | 3.75 | Bad |
| Total | | | 4 | 9 | 12 | |

Transportation of waste

The process for transportation of waste is general routing. There is no route optimization for collection of waste to disposal point .

8.8 Processing and Disposal of waste

Disposal method for waste collected from residential area:

Waste is collected from community bins and is disposed by open dumping method in outskirts of the city .

Disposal Method for waste collected from street sweeping:

The Waste collected from street sweeping is disposed by open dumping method in vacant land in the out skirts of the city

Disposal Method for desilted waste:

Waste collected from desilting drains is disposed by open dumping method in vacant land in the out skirts of the city .

Number of sites used for the disposal of waste in the ULB:

No disposal site is used .Waste is dumped where ever vacant sites are available .

Location of the site:

Around the city where vacant sites are available .

Waste Processing

No waste processing technique is followed . The waste is collected & disposed off.

Decentralized system

No decentralized system of solid waste treatment is practiced . The solid waste collected is used for filling low laying areas.

8.9 Problems faced by the ULB during the implementation of SWM

1 Lack of interest among the public to participate and pay user charges

2 Reluctant to pay user charges

3 Lack of people who come forward for doing door to door collection .

4 lack of awareness among the public on MSW (management and handling)Rules

| Table9: Deficit Analysis of present SWM System | | | |
|--|--|--|---|
| Action | MSW Rules 2000 | Present Status of SWM | Proposed SWM system |
| Segregation | <ul style="list-style-type: none"> Organizing awareness programmes Extent of segregation Promoting recycling or reuse of segregated materials. Phased programme to ensure community participation in waste segregation | No segregation and recycling is followed. No phased programmes are arranged to ensure community participation | <ul style="list-style-type: none"> No awareness programmes are organized . Segregation is not followed Recycling and reusing is not followed No programs to ensure community participation in waste segregation |
| Primary collection | <ul style="list-style-type: none"> Door to door waste collection. Slums, bulk generators, Commercial and agricultural waste should have separate collection system. MSW should not mix with hospital and industrial waste | Door-to-Door collection is followed only in two wards. In rest of the wards the waste is dumped into community bins. | <ul style="list-style-type: none"> No door to door collection . They dump into community bins . MSW is not mixed with hospital waste No recycling of biodegradable waste. |

| | | | |
|----------------------------------|---|---|---|
| | <ul style="list-style-type: none"> No burning of waste Recycling biodegradable waste | | |
| Secondary storage | <ul style="list-style-type: none"> Adequate number of covered storage bins Colorization of the bins: Bio-degradable wastes - green Recyclable wastes - white Other wastes – black. Avoid manual handling of waste | No secondary storage system is followed. All the waste are collectively dumped in community bins. | <ul style="list-style-type: none"> No covered storage bins . No colour coding Only manual handling is done |
| Transportation | <ul style="list-style-type: none"> Covered transportation vehicles Avoid multiple handling of waste No open dumping Regular clearance frequency | No covered transportation is used and waste are multiple handled and dumped in landfill site | <ul style="list-style-type: none"> No covered Vehicles Multiple handling is done Open dumping is followed |
| Processing: | <ul style="list-style-type: none"> Recyclables should be recycled. Biodegradable waste has to be inertised and preferably reused after processing like compost etc. Inners should be land filled in a scientific manner. | No processing of waste is done | <ul style="list-style-type: none"> No scientific method of processing is done |
| Disposal | <ul style="list-style-type: none"> Sanitary landfill | Land has been identified and approved by KSPCB | <ul style="list-style-type: none"> Open dumping is followed |
| Financial arrangement | ----- | It is done through revenue from municipal fund | <ul style="list-style-type: none"> No user charges is collected Revenue is from municipal fund |
| Institutional arrangement | ----- | No arrangements are made | <ul style="list-style-type: none"> No arrangements |

1.Details II: Proposed Solid Waste Management Action Plan

| Table 10: SWOT Analysis for the Proposed SWM System | | | |
|---|--|--|--|
| Activity | Proposed Action Plan | Activities that ULB can take up | Activities that has to be privatized |
| Creating awareness among the community and training to the SHGs | Community: Ward sabha Schools: Awareness camp Staff: Meetings and workshops Institutional: Meeting sand workshops | Ward sbha along with the help of councellers and local people. Awareness | Name of the NGO/ organization: |
| Street Sweeping includes <ul style="list-style-type: none"> • clearance of dry waste • clearance of waste from litterbins • Street sweeping along with roadside drain cleaning | Total Road length: 8.4 kms Type A: 6.5 kms Type B: 24.2 kms Type C: 10.3 kms | Total road length to be maintained by the ULB :41 kms Type A: 6.5 kms Type B: 24.2 kms Type C: 10.3 kms | Street sweeping activity is not out sourced |
| Debris clearance | Debris will be collected separately in the last trip and will dumped separately or will be used for filling low laying area. | ULB is solely responsible for the clearance of debris | Debris clearance activity is not outsourced .It will be managed by ULB . |
| Door to door waste collection in non slum households | Total number of non-slum households: 5136.nos. 25:75 ratio: Number of Auto tippers required: 1.0 no. Number of Pushcarts required: 17no. Number of tricycle required: 2no | The ULB initially supports the work until SHG stabilizes the process . Then ULB does the monitoring work | The Collection is done by SHG's and TCG's identified under SJSRY group . |
| Waste Collection In Bulk Generating Area | Bulk waste generated per day = 1.2 TPD | The ULB gives Auto tipper for waste collection from Bulk generators .It also does the monitoring work . | The collection is done by SHG's and TCG's identified under SJSRY group |

| | | | |
|---|--|--|--|
| Waste Collection in Slum Area | Collection Plan: Total number of slum households: 2260 nos. Number of Pushcarts required: 6 nos. Number of Tricycle required: - 0 nos. Number of 40 ltrs. HDPE bins required: 102 nos. Number of groups required for slum waste collection = 6 Pourakarmika. | In few slums ULB does waste collection from door to door from our pourakarmika . In Rest of the slum where bins are placed it does the monitoring of SHG | The slum areas are grouped into 4 groups and 40Lts HDPE bins are kept to dump the house hold waste and ULB pourakarmika are alloved for waste clearance from slum area . |
| Transportation of Street Sweeping Waste and Debris | Details of ULBs Vehicular fleet ., Tractors : 02nos Trucks :0 nos If others , specify the type and numbers : | The ULB is responsible for transportation of street sweeping waste | No tendering activity . Work is done by ULB |
| Processing and disposal | Type of treatment proposed for wet waste: - Type of landfill site = Engineered landfill Area required for compost unit:4.0 Acres Area required for land filling the inert waste:1.0 Acres | The entire activity of composting and land filling and maintenance of land fill site is done by ULB | No tendering as ULB does the activity |

2. Conducting awareness among the community

The ULB's action to conduct awareness among the following target groups which is being explained below:

General community: Issue of handbills, use of local cable network, ward sabha and advertisement in local paper.

Schools: Awareness creating programme on importance of solid waste management

Institutions: Regular meeting with business community regarding management of waste.

Pourakarmikas: weekly meeting explaining them about the work they have to perform and about solid waste management and taking care of their health.

SWM Health staff: Emphasizing them on the importance of segregation and regular health check up.

Elected representatives: conducting ward sabha and workshop and informing during monthly meeting.

3. Segregation

The waste has to be segregated into two types:

Wet waste: food waste, decomposable waste, other organic waste etc.

Dry waste includes recyclables: paper, plastics, rubber, wood, other inorganic waste etc.

4. Primary collection

The primary waste collection is to be taken under two heads:

1. Street sweeping
2. Door to door waste collection

Table 11: Classification of waste generators and primary collection strategy.

| Sl. no. | Waste generator | Number | Primary waste collection strategy |
|----------|-------------------------------|--------|---|
| 1 | Residential households | | |
| a | Slum / BPL households | 2260 | 6 pushcarts, 6 workers and collection by Pourakarmika |
| b | Non slum households | 5136 | Through SHG |

| | | | |
|---|---|--|---|
| 2 | Small waste generators | | |
| a | Commercial establishment | Shops: 539 Small Hotels: 69 Meat Shops:18 Vegetable shops:18 Small Offices:40 | Each command area is made in charge of one SHG and they are responsible for door to door waste collection in that command area by collection vehicle. |
| 3 | Bulk waste generators | | |
| a | Major Hotels, markets, Choultries and High Rise Building | Major Hotels/Restaurants: 0 High Rise buildings: 0 Choultries: 06 Resorts: -0 Markets: 01 Slaughter houses: -01 | Each command area is made in charge of one SHG and they are responsible for door to door waste collection in that command area by collection vehicle . |
| 4 | Road side waste | | |
| a | Street Sweeping | Total road length = 41 kms A type = 6.5 kms B type = 24.2 kms C type = 10.3 kms | Municipal Vehicle and pushcarts are used for street sweeping waste collection process. |
| b | Debris clearance | It is collected separately , dumped and is used for filling low lying area . | |
| c | Carcass / dead animal removal | Municipal Vehicle are used for carrying dead animals along with other kind of waste. | |
| e | Open area cleaning | It is done by task force from municipal workers | |
| 5 | Waste generators having their own facility for SWM | | |
| a | Municipal solid waste from Institutions and companies | None of the institutions of companies maintains their own system for SWM | Since the waste from intuitions and companies is usually paper waste rag pickers would be allotted for collecting the waste. For organic waste, it will be collected along with house hold waste. |
| b | Municipal Solid Waste from medical centers and industries | Medical center: 14 Industries: 16 | Waste from medical centers are not taken by ULB . They are responsible to manage their own waste. Small industrial waste are collected with other commercial waste. |

4.1 Street Sweeping details

Street Sweeping activity will include:

- Cleaning of silt accumulation along kerbs, mesh and shoulder drain.
- Sweeping of roads, streets and foot path
- Uprooting of vegetation
- Cleaning and desilting open drains
- Clearance of litterbins

Classify the city or town roads and streets into following types,

Table no 12: Zone Wise Street sweeping and roadside drain cleaning frequency as per the State Policy.

| Type | Road length | DAYS | | | | | | |
|-------|-------------|-------------------|-----|-----|-----|-----|-----|-----|
| | | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| A | 6.5 | √ | √ | √ | √ | √ | √ | √ |
| B | 24.2 | √ | √ | √ | √ | √ | √ | √ |
| C | 10.3 | AC | √ | √ | √ | √ | √ | √ |
| D | - | Once in fortnight | | | | | | |
| Total | | | | | | | | |

AC – Area Cleaning as a task work

Table 13: Distribution of sewers in the Tarikere TMC

| Frequency of cleaning | Drain length to be cleaned (in Kms) |
|--|-------------------------------------|
| Cleaned along with the street sweeping schedule (Road side drain with or without sewage flow) | 51Km |
| Once a year (to be outsourced) (Huge Sewers and storm water drains) | 600M |

Requirement of workers for street sweeping:

A type Road:

Total road length to be covered under Type A: 6.5 kms

Number of workers required for A type Roads =

$$\frac{\text{Total road length in Kms}}{1} = 7 \text{ workers}$$

B Type Roads:

Total road length to be covered under Type B: 24.2 kms

Number of workers required for B type Roads =

$$\frac{\text{Total road length in Kms} * 2}{6} = 8 \text{ workers}$$

C Type Roads:

Total road length to be covered under Type C: 10.3 kms

Number of workers required for C type Roads=

$$\frac{\text{Total road length in Kms} * 1}{6} = 2 \text{ workers}$$

Total workers requirement = 17 workers

Requirement of equipments for street sweeping

Table 15: Equipments to be procured by the ULB for street sweeping.

| SI no | Type of tools | Annual requirement of equipments | | | | 5 year requirements |
|-------|-------------------|----------------------------------|-----------------|--------------------------|---------------|---------------------|
| | | Actual (a) | Extra stock (b) | Frequency of Replacement | Total (a)+(b) | |
| 1 | Long Handle Broom | 68 | 7 | Once in 3 months | 75 | 340 |
| 2 | Metal Tray | 17 | 4 | Once in a Year | 21 | 85 |
| 3 | Metal Plate | 17 | 4 | Once in a Year | 21 | 85 |
| 4 | Ghamela | 17 | 2 | Once in 5 Years | 19 | 17 |
| 5 | Pushcarts | 9 | Nil | Once in 5 Years | 9 | 9 |

4.3 Door to door waste collection

Table 16: Boundaries demarcating the clusters for door to door waste collection by the SHGs.

| Zones | Number of households/ commercial shops | | |
|---|--|-------|------------------|
| | Households (APL+BPL) | Shops | Other generators |
| Zone 1 (*Areas where door to door waste collection can be done through Auto Tipper) | 1003 | 230 | 75 |
| Zone 2 (**Areas where door to door waste collection can be done through pushcart) | 3633 | 259 | 65 |
| Zone 3 (***)Areas where door to door waste collection can be done through tricycles) | 500 | 50 | 38 |

4.3.1 Non-slum Households management

Number of non-slum households in the city = 5136 households

Total number of command areas = number of non-slum households/ 1000 = 5nos.

Classification of households in 25: 75 ratio for auto tippers and pushcart/ tricycles:

Number of households to be served by the Auto tipper

= total number of non-slum households * 0.25

= 1000 households

Total number of households that has to be served by tricycle or pushcart or both in combination

= total non-slum households - number of households to be

served by the auto tippers

= 4136 households

a) Auto Tipper

Number of auto tippers required = number of households to be served by Auto tippers/1000

= 1 auto tippers

Total number of SHG s required for managing and monitoring auto tippers =1no.

b)Tricycle

Number of households to be served by tricycle=500 households

Number of Pushcarts required =number of households to be served by tricycles/240
= 17 Pushcarts.

c)Pushcart

Number of households to be served by pushcarts = 3633 households

Number of pushcarts required = number of households to be served by tricycles / 160
= 17 pushcarts

Number of SHGs who have come forward to manage the door to door waste collection using tricycles and pushcarts = 3 nos.

Total number of SHGs required for managing and monitoring waste collection from non-slum households = 4 nos

Total SHGs identified for this task = 21 nos.

4.4 Slum and BPL households management

Number of slum and BPL households in the city or town = 2260 households

a) Door to door waste collection

Number of slum households to be served through door to door waste collection system = 0 households
Type of vehicle required = Pushcarts(prefer pushcarts than tricycles)
Number of collection vehicles required = number of Households / 250 or 300 = 6 Pushcarts
Number of workers required = 6 Workers

b) Bring in system using HDPE bins

Number of slum households to be served by bring in system = 2260 households

Number of HDPE bins required = number of slum households/20
= 102 HDPE bins

Number of pushcarts required = (total number of HDPE bins/ 50)
= 6 pushcarts

Number of ULB Pks/workers required = (total number of pushcarts required * 2)
= 6 workers

Table 17: Collection groups for slum households

| Collection group number | Ward number | Number of Households | HDPE bins required | No. of Collection Vehicle required | No. of Workers required | Remarks |
|-------------------------|--------------|----------------------|--------------------|------------------------------------|-------------------------|--|
| 1 | 1,2,3,6 | 579 | 29 | 2 Pushcart | 2 | Bins are emptied and dumped in secondary container |
| 2 | 14,17,19,20, | 402 | 20 | 1 Pushcart | 1 | Bins are emptied and dumped in secondary container |
| 3 | 7,8,12,13, | 660 | 33 | 2 Pushcart | 2 | Bins are emptied and dumped in secondary container |
| 4 | 4 | 386 | 20 | 2 Pushcart | 1 | Bins are emptied and dumped in secondary container |
| Total | 4 | 2027 | 102 | 6 Pushcart | 6 | |

Table 18: Command area wise details for door to door waste collection in non slum area through SHGs/RWAs/TCGs

| Command area number | Ward No. | Primary collection of waste in | | | Type of primary collection vehicle | Management system |
|---------------------|----------------|--------------------------------|------------|------------------|------------------------------------|-------------------|
| | | Houses | Shops | Other generators | | |
| 1 | 1,16,19,20 | 1094 | 100 | 28 | 2T & 3P | 5 |
| 2 | 2,9,10,11,17 | 1003 | 230 | 75 | AT & P | 2 |
| 3 | 12,13,14,15,18 | 1307 | 25 | 30 | 6P | 6 |
| 4 | 3,5,6,7,8 | 1480 | 149 | 35 | 7P | 7 |
| Total | | 5101 | 539 | 237 | | 20 |

4.4.1 Collection Plan

Table 19: Chart showing the collection plan for segregated Waste.

| Type of waste | Frequency of Collection | | | | | | |
|--|-------------------------|------------|------------|------------|------------|------------|------------|
| | Sun | Mon | Tue | Wed | Thur | Fri | Sat |
| Wet waste collection from residential area 6.30 am to 9.30 am | √ | √ | √ | √ | √ | √ | √ |
| Dry waste collection from an area including residential and commercial area 9.00 am to 12.00 pm | | Z 1 | Z 2 | Z 3 | Z 4 | Z 5 | Z 6 |
| waste collection from the bulk generators 2.30 pm to 4.30pm | √ | √ | √ | √ | √ | √ | √ |

Attach a city map demarcating the command areas for primary waste collection through SHGs in the non-slum households.

5. Waste Collection from bulk generators

| | |
|-------------------------------------|------------|
| Number of markets | = 21nos. |
| Number of major hotels/ restaurants | = 69 nos.. |
| Number of apartments | = 0 nos. |
| Number of hostels | = 3 nos. |
| Number of commercial complex(shops) | = 359 nos. |
| Number of choultries | = 6 nos. |
| Number of Markets | = 18 nos. |
| Number of meat shop | = 1 nos. |
| Any others | = 0 nos. |

Management Plan:

Few commercial shops which are in residential areas, there waste are collected along with residential waste.

6. Collection of construction and demolition waste and dead animals/ carcass

Dead animals are collected with other kind of waste. Construction and demolition waste are collected separately and used for filling low lying area.

The current page data is valid as on:

| | | | | | |
|---|---|---|---|---|---|
| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data:By Survey

7. Contingency Plan for waste collection

The contingency plan for waste collection in case of major jhataras is placement of closed litter bins and using our own pourakarmika for cleaning the premises in afternoon task force and emptying the waste from bins into transportation vehicle to transport it to landfill site.

8. Placement of Litterbins

Total number of litterbins required = 31 nos.

Table 20: The details of the litterbins are given in the table below.

| Ward numbers | Number of litterbins | Locations details | Clearance method | Distance between the litterbins (m) |
|--------------|----------------------|--|---|-------------------------------------|
| 1 | 4 | Theater , next to Petrol bunk, last shop | Along with auto tipper | 500 |
| 2 | 4 | Vasudha hospital , Govt Veterinary hospital , Bus stand , Channakeshwara temple | Along with auto tipper | 500 |
| 3 | 2 | Temple, Next to Circle | Along with auto tipper | 500 |
| 5 | 1 | Ashirwad Nursing Home | Along with auto tipper | 500 |
| 7 | 5 | Lingadahalli road , New Housing Board , Maggadi Beedi, Ramanayakana keru , kuvempu road (Canara Bank) | | |
| 8 | 2 | M.G.Road | Along with door to door collection | 500 |
| 9 | 1 | Ganapathi Pandal | Along with auto tipper | 500 |
| 10 | 2 | School ,Silver jubilee road | Along with auto tipper | 500 |
| 11 | 1 | Mosque | Along with auto tipper and along with door to door collection | 500 |
| 16 | 3 | Taluk Panchayat ,TMC , Basaveshwara road | Along with auto tipper and along with door to door collection | 500 |
| 17 | 4 | Private bus stand , Travelers bungulo , Govt bus stop and court | Along with auto tipper | 500 |
| 20 | 2 | A.C office and near pump house | Along with door to door collection | 500 |
| Total | 31 | | | |

9. Secondary Storage

Estimation of source wise wet wastegeneration that has to be stored in the secondary storage containers

Table 21: Estimation of wet waste generation in a day

| Sl no | Type of Waste Generator | Total number | Quantity of waste generated per unit in kgs | Total quantity of wet waste generated per day in kg |
|--------------|-----------------------------|--------------|---|---|
| 1 | Non – Slum Households | 5136 | 1.25 | 4173 |
| 2 | Slum Households | 2260 | 1.0 | 1469 |
| 3 | Commercial shops | 539 | 1 | 350.35 |
| 4 | Major hotels and resorts | - | - | - |
| 5 | Small Hotels | 69 | 5.0 | 224.25 |
| 6 | Small markets | 8 | 10.0 | 52 |
| 7 | Weekly market | 1 | 3000 | 487.5 |
| 8 | Choultryes | 6 | 175.1 | 113.5 |
| 9 | Hostels | 4 | 15 | 39 |
| 10 | Institutions | 43 | 1 | 66 |
| 11 | Boarding & Lodging centers | 4 | 25 | 65 |
| 12 | Vegetable shops | 08 | 5 | 26 |
| 13 | Meat shops | 18 | 3 | 11.7 |
| 14 | Slaughter Houses | 1 | 10 | 6.5 |
| 15 | Theater | 3 | 5 | 9.75 |
| 16 | If Others(specify the type) | | | |
| Total | | | | 8045 |

Total quantity of wet waste generated = 8.45 tones per day

If 25% extra is added to the total wet waste

$$= (\text{Quantity of wet waste} * 1.25)$$

$$= 10.56 = 10 \text{ tones per day}$$

3 and 4.5 cum containers is calculated in 40:60 ratio

Total number of 3m³ containers required for wet waste storage = A/(3)

$$= 4. \text{ nos}$$

Total number of 4.5m³ containers required for wet waste storage =A/(3)

$$= 3. \text{ nos}$$

If any extra bins required as per filled experience (4.5m³) = 1.nos

The current page data is valid as on:

| | | | | | |
|---|---|---|---|---|---|
| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data:By Survey

Table 22 : Coverage area details for each secondary storage bin

| Sl no | Number of secondary storage containers | | Number of households | Number of other generators | Remarks |
|-------|--|---------|----------------------|----------------------------|---|
| | 3 Cum | 4.5 Cum | | | |
| 1 | 1 | 1 | 1094 | 128 | In each command area combination of 3 & 4.5 cum containers are placed |
| 2 | 2 | 2 | 1003 | 305 | In each command area combination of 3 & 4.5 cum containers are placed |
| 3 | 3 | 3 | 1307 | 55 | In each command area combination of 3 & 4.5 cum containers are placed |
| 4 | 4 | - | 1480 | 184 | In each command area combination of 3 & 4.5 cum containers are placed |
| | 4 | 3 | 5136 | 672 | |

10. Transportation of waste

The waste is transported by tractor trailer to landfill site for disposal

Total number of containers to be carried by the secondary transportation vehicles=7 Containers

i.e

3m .4nos.

4.5 m . 3nos

Average lead = 5 kms

Number of trips each vehicle can do =7.trips

Number of Tractor –trailer required = total containers/ number of trips done by each vehicle

= 1 Nos

Total requirement of workers for the transportation of waste = 2 number.

The current page data is valid as on:

| | | | | | |
|---|---|---|---|---|---|
| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data:By Survey

Table 23: Transport plan for vehicles

| Type of Vehicles | | Type of Waste carried | Number of containers cleared | No of Trips / Day | Requirement Of Workers |
|--|---|--------------------------|---|------------------------|------------------------|
| Tractor Placer | | | | | |
| Tractor placer 1 | | Wet waste | 7 | 7 | 2 |
| Total vehicles required | Dumper Placer: 0 numbers Tractor Placer: 1 numbers | | | | |
| Deployment of existing ULB's vehicular fleet | | | | | |
| Type of Vehicle | Vehicle Number | Works assigned presently | Works allotted as per the proposed Action Plan | Requirement of workers | |
| Tractor trailer | KA-18 G-3068 | 4 | Collection & transportation of street sweeping waste & for task force | 4 | |
| Tractor Triller | MYC 4689 | 4 | Collection & transportation of street sweeping waste & for task force | 4 | |

11. Processing and Disposal of waste

Details of landfill site:

- Name of the location : Haliyur
- Type of land : Private land
- Extent : 14 Acers
- Survey number(s) : 46
- Minimum distance from the city : 3 km
- Maximum distance from the city : 9 Km
- Average lead :4-6 Km
- Type of landfill : Engineering landfill (pit system)
- Present status : Sent for approval

The current page data is valid as on:

| | | | | | |
|---|---|---|---|---|---|
| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data:By Survey

Wet waste: The disposal process adopted for wet waste is pit - Compost method

Dry Waste: The disposal process adopted for dry waste is pit – Compost method

Recyclables: The recyclable waste mainly consist of paper so it is allotted for rag pickers to collect it and take it to disposal point

Silt from drains: The disposal method for silt is either pit-compost method or is dumped in separate pits

Street Sweeping waste: Street sweeping waste is used as cover for covering the pits which are filled with wet waste

Constructional Waste: They are collected separately and used for filling low lying areas and for accesses road development

Agricultural Waste: Used for pit compost along with wet waste.

Table 24: Daily Activity chart for SWM

| Activities | 6.30 to 8.30 | 8.30 to 9.30 | 9.30 to 11.30 | 11.30 to 12.30 | 12.30 to 2.30 | 2.30 to 4.30 | 4.30 to 6.30 |
|---|--------------------|--------------------|---------------------|----------------------|---------------------|--------------------|--------------------|
| Part A – Collection and Transportation | | | | | | | |
| Street Sweeping | √ | √ | √ | | | √ | √ |
| Door to Door Collection from Residents | √ | √ | √ | √ | | | |
| Waste collection from slums | | √ | √ | | | | |
| Collection from Bulk Generators | √ | √ | | | | √ | |
| Transportation of wet waste | | | | √ | √ | | √ |
| Transportation of street sweeping waste | | | √ | √ | | | √ |
| Collection and transportation of constructional waste | | | | | | √ | √ |
| Cleaning of drains | √ | √ | √ | | | √ | |
| Part B – Processing and Disposal | | | | | | | |
| Processing and Disposal | | | √ | √ | √ | √ | √ |

12. Institutional Arrangement

Presently the following staff is working under SWM. The table below gives the details of the work that they were allotted presently.

Table 25: present working details of the SWM staff

| Present staff for SWM | Number | Work allotted presently |
|------------------------|--------|---|
| Workers(permanent) | 38 | Cleaning activity |
| Workers (daily wages) | 14 | Cleaning activity |
| Drivers | 3 | Driving activity |
| Cleaners | - | - |
| Supervisors | 03 | Supervising PK and work allotment to PK |
| Inspector | 01 | Monitoring the overall SWM activity |
| Engineer | 01 | Supervising overall SWM activity |

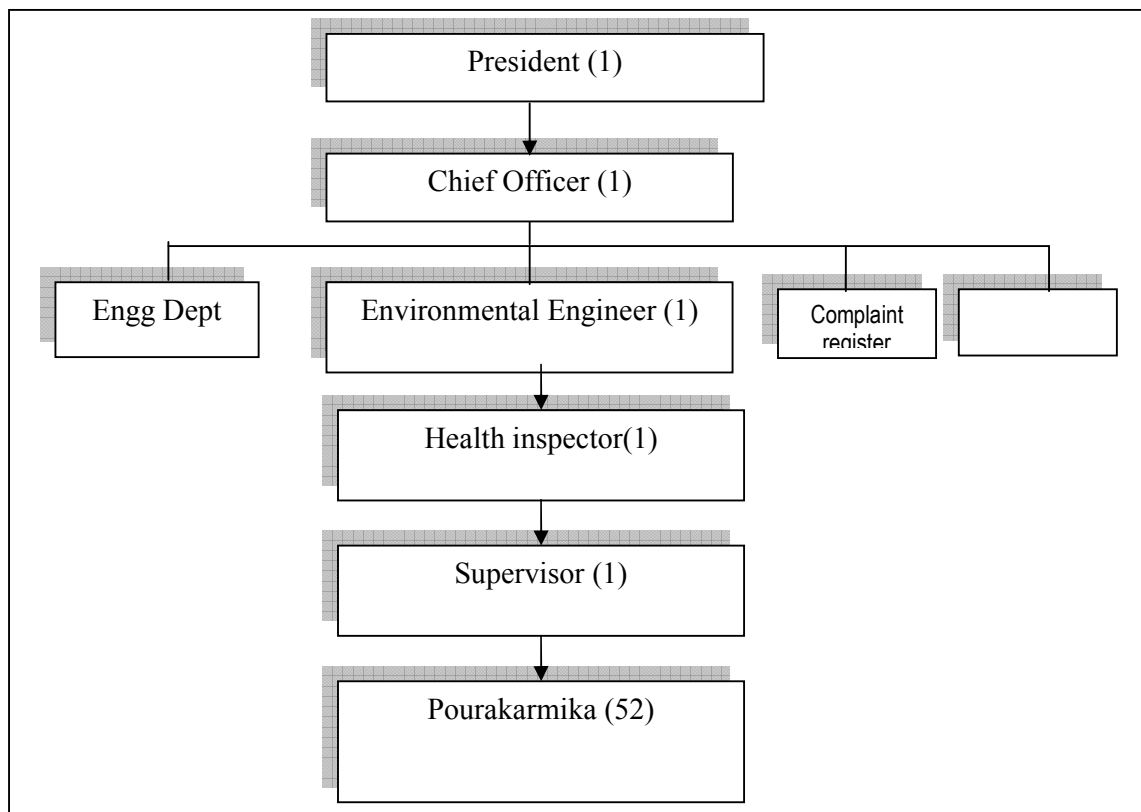
Table 26: Redeployment plan for ULB's manpower as per the proposed SWM plan.

| Sno. | Sector | Workers |
|--------------|---|--------------|
| 1 | Absentees (generally 10% is considered as absentees) | 5 |
| 2 | Waste collection from slum and BPL households | 6 |
| 3 | Task work 1 | - |
| | Peons | - |
| | Drivers | 3 |
| | Supervisors | 1 (Separate) |
| | Aged and physically challenged | - |
| | Any others (give details) | - |
| | Sub Total | 14 |
| 4 | Additional works | 0 |
| | Street lights maintenance | 1 |
| | Maintenance of public toilets | 2 |
| | UGD | - |
| | Water supply | 2 |
| | Fire fighting | - |
| | If any other(specify the works) | - |
| | Sub Total | 5 |
| 5 | Street sweeping | 17 |
| 6 | Transportation of street sweeping waste | 8 |
| 7 | Collection of waste from bulk generators | 3 |
| 8 | Collection of waste from commercial areas | - |
| 9 | SWM task force | 4 |
| 10 | At landfill site | 2 |
| Total | | 53 |

13. Organisational Structure (SWM)

The Organization details and the flow of order is shown in the flow chart below.

Flow chart showing the hierarchy of solid waste management division:



Work allocation of the supervising team for swm:

Table 27: Allocation of work for the supervising staff.

| SWM Staff in charge | Role |
|------------------------------------|---|
| Health Officer | Supervision of the overall SWM activity |
| Environmental Engineer 1 number | Supervising the overall SWM activity |
| Health Inspectors : | |
| Health Inspectors: 01 numbers | Supervision of supervisors and PK |
| Supervisor: | |
| Supervisors: 01 numbers | Supervision of supervisors & pourakarmika |

Arrangement of holidays for ULB's SWM staff:

For primary collection: No holiday. Daily collection has to be done. If somebody is on leave the other workers should be deputed (redeployment for absentees is 10%)

For transportation and landfill unit: No holiday . Daily collection has to be done.If somebody is on leave ,the other workers should be deputed (redeployment for absentees is 10%)

In case of absence: Extra 5 (10%) workers are employed to redeploy the absent workers.

Common holidays for all the sectors: Festivals, National festivals and functions and general holiday.

14. Financial Arrangement

The financial requirements are proposed to be worked under two components.

1. Capital cost
2. Recurring cost

15. Present expenditure on SWM Activities

Table 28: Briefing the annual expenditure of the ULB from past 3 years for SWM.

| Particulars | Expenditure on SWM head in Rupees | | |
|-------------------------------------|-----------------------------------|------------------|------------------|
| | 2002 -2003 | 2003-2004 | 2004-2005 |
| Salaries for SWM staff (44 members) | 24,68,832 | 27,68,904 | 28,62,460 |
| Contracts (street sweeping) | 2,00,000 | 2,15,095 | 2,28,314 |
| Purchase of tools and equipments | 71,738 | 1,04,660 | 10,074 |
| O and M of the existing vehicles | 1,71,046 | 2,10,308 | 1,90,153 |
| Miscellaneous if any | - | - | - |
| Total | 29,11,616 | 32,98,967 | 33,46,001 |

Average recurring cost born by the ULB from past 3 years = Rs 31,85,528

16. Estimates of Capital cost for the proposed SWM Action Plan

Table 29: The estimated capital cost as per the proposed SWM action Plan for Tarikere

| Sino | Particulars | Quantity | Rate (in Rs) | Amount (in Rs) |
|--------------------|--|-----------|---------------------------------|------------------|
| A | Street sweeping | | | |
| 1 | Pushcart | 9 | 6500 | 58,500 |
| | Sub Total | 9 | | 58,500 |
| B | Primary collection | | | |
| 1 | Auto tipper (Subsidy) | 1 | 1, 05,000 | 1,05,000 |
| 2 | Pushcarts (slum) | 6 | 6,500 | 39,000 |
| 3 | Pushcart (Subsidy) | 17 | 3,250 | 55,250 |
| 4 | Tricycles | - | 15,300 | - |
| 5 | Tricycle (Subsidy) | 2 | 7,650 | 15,300 |
| 6 | 40 lit HDPE bins | 102 | 305 | 31,110 |
| | Sub Total | | | 2,45,660 |
| C | Litter bins of 100 lt capacity | 31 | 3500 | 1,08,500 |
| | Sub Total | 31 | | 1,08,500 |
| D | Secondary storage | | | |
| 1 | Containers of 3 cubic meter capacity | 4 | 51,500 | 2,06,100 |
| 2 | Containers of 4.5 cubic meter capacity | 4 | 59,000 | 2,36,000 |
| 3 | Containers of 7 cubic meter capacity | - | 50,000 | - |
| 4 | Construction of PCC platform, for placing containers on it | 7 | 4,500 | 31,500 |
| | Sub Total | - | | 4,73,500 |
| E | Transportation | | | |
| 1 | Twin container Dumper Placer | - | 8,50,000 | - |
| 2 | Tractor placer | - | 6,00,000 | - |
| F | Processing and disposal | | To be Tendered out on BOT basis | - |
| | Sub Total | | | 6,00,000 |
| G | Purchase of tools and equipments | | | |
| 1 | Long handle broom | 340 | 150 | 51,000 |
| 2 | Metal tray | 85 | 200 | 17,000 |
| 3 | Metal plate | 85 | 60 | 5,100 |
| 4 | Ghamela | 17 | 150 | 2,550 |
| | Sub total | - | | 75,650 |
| Grand total | | | | 15,61,810 |

17. Estimates of Annual O and M Cost

Table 30: The proposed annual recurring cost of SWM for the ULB.

| Sno. | Particulars | Total amount (in Rupees) |
|---|--|------------------------------|
| Part A – O and M cost for collection and transportation of waste | | |
| 1 | Salaries of the SWM staff | |
| A | Pourkarmikas/workers | 37,00,000 |
| B | Drivers and cleaners | 72,000 |
| C | Supervisors | 1,57,320 |
| D | Sanitary Inspectors | 90,000 |
| E | Environmental Engineer | 1,40,000 |
| F | Assistant Health Officer | - |
| G | Health Officer | - |
| 2 | Maintenance cost for equipments and vehicles owned by ULB | |
| A | Existing vehicles | 3,50,116 |
| B | Pushcarts @ Rs. 1000/year/pushcart | 15,000 |
| C | Tricycle @ Rs. 2000/tricycle/year | - |
| D | Secondary storage containers @ 5000/year/container | 40,000 |
| 3 | Contracts | |
| A | Street Sweeping | |
| B | Bulk waste collection | |
| 4 | Uniforms and badges for permanent workers @ Rs. 1000/year/worker | 38,000 |
| 5 | Purchase of phenol. | 75,000 |
| Sub Total 1 | | 50,13,436 |
| Part B – O and M cost for Processing and Disposal | | |
| 1 | Tipping fee or cost incurred by ULB for processing and disposal of solid waste | - |
| Sub Total 2 | | - |
| Part C – purchase of tools and equipments | | |
| A | Long handle broom | 11,250 |
| B | Metal tray | 3,400 |
| C | Metal plate | 1020 |
| D | Ghamela | 2,850 |
| Sub Total 3 | | 18,520 |

18. Collection of User Charges

The user charges will be collected as per the Government Order. which is attached below .

(Attach a resolution letter of the Council meeting on SWM State Policy, Action Plan, user charges and Tender documents)

**Name of the Health Officer/
Environmental Engineer /
Health Inspector**

Tejaswini.v.

Name of the Commissioner

H.S. Chandreshakar
(Chief officer)

Signature

Signature with Seal

| | | | | | |
|---|---|---|---|---|---|
| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Annexure I – Road wise schedules for street sweeping

| Road name | Road Length in mts | Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|---|--------------------|-----|-----|-----|-----|------|-----|-----|
| A type : Daily sweeping | | | | | | | | |
| B.H.Road | 2 | √ | √ | √ | √ | √ | √ | √ |
| M.G.Road | 2 | √ | √ | √ | √ | √ | √ | √ |
| Basaveshwara Road | 1.5 | √ | √ | √ | √ | √ | √ | √ |
| Govt hospital Road | 0.25 | √ | √ | √ | √ | √ | √ | √ |
| Silver Jubilee Road | 0.25 | √ | √ | √ | √ | √ | √ | √ |
| Thyar Road | 0.25 | √ | √ | √ | √ | √ | √ | √ |
| Kuvempu Road | 0.25 | √ | √ | √ | √ | √ | √ | √ |
| Sub total | 7 | | | | | | | |
| B type: twice in a week sweeping | | | | | | | | |
| Govt Hospital road & College road | 0.5 | √ | | | √ | | | |
| Dasara & Anappa road | 0.5 | √ | | | √ | | | |
| Sri Ram extension & Kote Camp | 2 | | √ | | | √ | | |
| Maruthi extension | 2 | | | √ | | | √ | |
| Gud shed road & D.V.G road | 0.5 | √ | | | √ | | | |
| Kuchappa & Joisara road | 0.5 | √ | | | √ | | | |
| Kullappa & Khaji road | 0.5 | | | √ | | | | √ |
| Kumbara & Durgada road | 0.5 | | | √ | | | | √ |
| Bapuji Colony | 1 | | √ | | | | √ | |
| Kambada & Belimagadha road | 0.5 | | | | √ | | | √ |
| MandalKhan & Kavadigara road | 0.5 | | | | √ | | | √ |
| Kodi Camp | 4 | √ | √ | | √ | | √ | |
| Thopanna & Madivalara road | 0.5 | | √ | | | √ | | |
| Dr.Ammanna | 0.5 | | √ | | | √ | | |

The current page data is valid as on:

| | | | | | |
|---|---|---|---|---|---|
| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|

Source for the data:By Survey

| | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|
| road & Dhodatti | | | | | | | | |
| M.Thimmaiah & Puttasankanna road | 0.5 | | | √ | | | √ | |
| Ramadevara & Venkatarayanna road | 0.5 | | | √ | | | √ | |
| Doddaiaha & Panchakallaiaha road | 0.5 | | | | √ | | | √ |
| Nayakara & Beguraiah road | 0.5 | | | | √ | | | √ |
| Indira Nagar | 0.25 | √ | | | √ | | | |
| Vasappa Colony | 0.25 | √ | | | √ | | | |
| Sankanna & Thudipeti road | 0.5 | √ | | | √ | | | |
| A.K Colony | 0.25 | | √ | | | √ | | |
| Kuvempu road | 0.25 | | √ | | | √ | | |
| Pandit road | 0.5 | | √ | | | √ | | |
| P.M.K road | 2 | | | √ | | | √ | |
| Nagappa Colony | 2 | | | | √ | | | √ |
| Chowdeshwari Colony | 2 | √ | | | | √ | | |
| Sub Total | 24.2 | | | | | | | |
| C type – once in a week sweeping | | | | | | | | |
| Lingadahalli road | 2 | | √ | | | √ | | |
| B.H road | 1 | | | √ | | | | |
| Police Quarters | 1 | | | | √ | | | |
| Thagyaraja nagar | 1 | | | | | | √ | |
| Thudipet extension | 0.5 | | | | | | | √ |
| Housing Board | 1.5 | √ | | | | | | |
| Road next to court | 0.25 | | √ | | | | | |
| Sub-total | 7.25 | | | | | | | |
| Grand total | 41 | | | | | | | |

Annexure II – Street Sweeping Schedule

Daily Sweeping

| Sl no | Name | Mon | Tue | Wed | Thurs | Fri | Sat |
|-------|----------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1 | Balanagamma | B.H Road | B.H Road | B.H Road | B.H Road | B.H Road | B.H Road |
| 2 | Honnuramma | B.H Road | B.H Road | B.H Road | B.H Road | B.H Road | B.H Road |
| 3 | Ganagamma | M.G.Road | M.G.Road | M.G.Road | M.G.Road | M.G.Road | M.G.Road |
| 4 | Nallamma | M.G.Road | M.G.Road | M.G.Road | M.G.Road | M.G.Road | M.G.Road |
| 5 | Sannakariyamma | Basaveshwara nagar | Basaveshwara nagar | Basaveshwara nagar | Basaveshwara nagar | Basaveshwara nagar | Basaveshwara nagar |
| 6 | T.Hanumantha | Govt Hospital Road | Govt Hospital Road | Govt Hospital Road | Govt Hospital Road | Govt Hospital Road | Govt Hospital Road |
| 7 | Jayamma | Silver jubilee ,Thayar , Kuvempu road | Silver jubilee ,Thayar , Kuvempu road | Silver jubilee ,Thayar , Kuvempu road | Silver jubilee ,Thayar , Kuvempu road | Silver jubilee ,Thayar , Kuvempu road | Silver jubilee ,Thayar , Kuvempu road |

Twice a week sweeping

| Sl no | Name | Mon | Tue | Wed | Thurs | Fri | Sat |
|-------|------------------|---|--|---|--|---|--|
| 1 | Thippesha | Maruthi ext (Main road | Bapuji Colony | Maruthi ext | Maruthi ext Main road | Bapuji Colony | Maruthi ext |
| 2 | Kadarappa | Sri ram ext | Kote Camp | Govt Hospital road , Basaveshwara nagar | Sri Ram Ext | Kote camp | Govt Hospital road , Basaveshwara nagar |
| 3 | Kadur Hanumantha | Bapuji Colony | Dasara , Annappa, Kuchappa, Joisara, Kullappa beedi | Kambada , Bellimagada ,Mandalkhan , Puttasankanna beedi | Bapuji Colony , KEB | Dasara ,Annappa, Kucharappa , Joisara , Kullappa beedi | Kambada, Bellimagadha , Puttasankanna, Mandalkhan |
| 4 | Nagaraja | Thopanna ,Madivalara, Goravaiah, Krishnadevara beedi & Basaveshwara Nagar | Dr Ammanna ,Silver jubilee , Bugrimarada , Marigaddie Compound | Dharmalinga ,Kanamanahatti, Salumaradhamma, Ramadevara beedi | Thopanna, Madivalara , Goruvaiahna , Krishnadevara beedi, & Basaveshwara | Dr .Ammana , Silver jubilee, Bugarimaradha beedi , Marigaddige Compound | Dharmalingada road, Kanumanahatti, Salumaradhamma , Ramadevara beedi |
| 5 | Nagaraj Sidhappa | Panchakallaiah ,GowdaHanumaiah, Sankanna , Beguraiah beedi | Chowdeshwari colony (1,2 cross) | Chowdeshwari colony (3,4 cross), Vasappa Colony Back yard | Panchakallaiah , Gowda hanumaiah , Sankanna , Beguraiah beedi , | Chowdeshwari colony (1,2 cross) | Chowdeshwari colony (3,4 cross) |
| 6 | Ramappa | Kodi camp | Kodi camp | Vasappa Colony Back yard | Kodi Camp | Kodi Camp | Kodi Camp |
| 7 | Manja mudali | Nayakara, Panchakllaiah, Chickamaseedi beedi | Venkaraya, Ramadevara , Puttasankanna beedi | M Thimmaiah , Huchappa hone , Doddatti, Kambada beedi school side | Nayakara , Panchakallaiah , Chickamaseedi beedi | Venkataraaya, Ramadevara, Puttasankanna beedi , Beguraiah beedi | M Thimmaiah , Huchappa hone , Doddatti, Kambada beedi school side |
| 8 | R.Manjunath | Nagappa Colony | Nagappa colony , | Bapuji tank, Akka Nagamma colony | Nagappa Colony | Nagappa Colony | Bapuji tank, Akka Nagamma colony |
| 9 | | Tudipeti , PMK road, A.K colony | Thudipet, Machanahalli | Pump house behind , Denna Dayal Ext | Tudipet , PNK road , AK Colony | Tudi pet, Machanahalli, | Pump house behind , Denna Dayal Ext |

ಪುರಸಭಾ ಕಾರ್ಯಾಲಯ, ತರೀಕೆರೆ.

ತಾರೀಖು:30/05/2006 _____ ರಂದು ನಡೆದ ವಿಶೇಷ ಸಭಾಧಿವೇಶನದ
ನಡವಳಿಕೆ

ಹಾಜರಿ: 09

ಗೈರು ಹಾಜರಿ: 13

ಜುಮ್ಲಾ: 22

ವಿಷಯ ನಂ. 1:- ತರೀಕೆರೆ ಪುರಸಭಾ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಘನತ್ಯಾಜ್ಯ ವಸ್ತುಗಳ ವಿಲೇವಾರಿ ಮತ್ತು ನಿರ್ವಹಣೆ ಬಗ್ಗೆ ಕ್ರಿಯಾ ಯೋಜನೆಯನ್ನು ತಯಾರಿಸಿದ್ದು ಸದರಿ ಕ್ರಿಯಾ ಯೋಜನೆಯನ್ನು ಪರಿಶೀಲಿಸಿ ಒಪ್ಪಿ ಮಂಜೂರು ಮಾಡುವ ವಿಚಾರ.

ತೀರ್ಮಾನ :- ಈ ಬಗ್ಗೆ ಸಭೆಯು ಕಛೇರಿಯ ಪರಿಸರ ಅಭಿಯಂತರರು ಘನತ್ಯಾಜ್ಯ ವಸ್ತುಗಳ ನಿರ್ವಹಣೆ ಹಾಗೂ ವಿಲೇವಾರಿ ಬಗ್ಗೆ ತಯಾರಿಸಿರುವ ಕ್ರಿಯಾ ಯೋಜನೆಯನ್ನು ಪರಿಶೀಲಿಸಿ ಒಪ್ಪಲಾಯಿತು. ಸದರಿ ಕ್ರಿಯಾ ಯೋಜನೆಯನ್ನು ಮಾನ್ಯ ನಿರ್ದೇಶಕರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ, ಬೆಂಗಳೂರು ಇವರಿಗೆ ಮಂಜೂರಾತಿಗೆ ಕಳುಹಿಸಿಕೊಡಬಹುದೆಂದು ಸರ್ವಾನುಮತದಿಂದ ತೀರ್ಮಾನಿಸಲಾಯಿತು.

ಸಹಿ/-
ಅಧ್ಯಕ್ಷರು,
ಪುರಸಭೆ, ತರೀಕೆರೆ.

ಯಥಾ ನಕಲು,

ಮುಖ್ಯಾಧಿಕಾರಿ,
ಪುರಸಭೆ, ತರೀಕೆರೆ.

ಪುರಸಭಾ ಕಾರ್ಯಾಲಯ, ತರೀಕೆರೆ.

ತಾರೀಖು:30/05/2006 _____ ರಂದು ನಡೆದ ವಿಶೇಷ ಸಭಾಧಿವೇಶನದ
ನಡವಳಿಕೆ

ಹಾಜರಿ: 09

ಗೈರು ಹಾಜರಿ: 13

ಜುಮ್ಲಾ: 22

ವಿಷಯ ನಂ. 2:- ತರೀಕೆರೆ ಪುರಸಭಾ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬಡತನ ರೇಖೆಗಿಂತ ಮೇಲ್ಪಟ್ಟ ಪ್ರದೇಶಗಳಲ್ಲಿಯ ಮನೆ-ಮನೆಗಳಲ್ಲಿ ಘನತ್ಯಾಜ್ಯ ವಸ್ತುಗಳನ್ನು ಪಡೆದು, ವಿಲೇವಾರಿಸುವ ಬಗ್ಗೆ ಶುಲ್ಕ ನಿಗದಿಪಡಿಸುವ ಕುರಿತು ಸೂಕ್ತ ತೀರ್ಮಾನ ಕೈಗೊಳ್ಳುವ ವಿಚಾರ.

ತೀರ್ಮಾನ :- ಈ ಬಗ್ಗೆ ಸಭೆಯು ಧೀರ್ಘವಾಗಿ ಚರ್ಚಿಸಲಾಗಿ, ಘನತ್ಯಾಜ್ಯ ವಸ್ತುಗಳ ಸಂಗ್ರಹಣೆ/ವಿಂಗಡಣೆ ಮತ್ತು ವಿಲೇವಾರಿ ಹಾಗೂ ವಿಂಗಡಣೆಯನ್ನು ಸಮರ್ಪಕವಾಗಿ ನಿರ್ವಹಿಸಲು ನಗರ ಸ್ಥಳೀಯ ಸಂಸ್ಥೆ ವ್ಯಾಪ್ತಿಯಲ್ಲಿನ ವಿವಿಧ ಕಟ್ಟಡಗಳ ಮೇಲೆ ಉಪಕರ ವಿಧಿಸಲು ಸರ್ಕಾರ ಹೊರಡಿಸುವ ಆದೇಶದ ಸಂ.ನ.ಅ.ಎ/23/ಟಿ.ಸಿ.ಎಲ್/2004 ಬೆಂಗಳೂರು ದಿನಾಂಕ:06/01/2005 ರಂತೆ ಶುಲ್ಕ ವಸೂಲಿ ಮಾಡಬಹುದೆಂದು ಸರ್ವಾನುಮತದಿಂದ ತೀರ್ಮಾನಿಸಲಾಯಿತು.

ಸಹಿ/-
ಅಧ್ಯಕ್ಷರು,
ಪುರಸಭೆ, ತರೀಕೆರೆ.

ಯಥಾ ನಕಲು,

ಮುಖ್ಯಾಧಿಕಾರಿ,
ಪುರಸಭೆ, ತರೀಕೆರೆ.

| | | | | | |
|---|---|---|---|---|---|
| 3 | 0 | 0 | 5 | 0 | 6 |
|---|---|---|---|---|---|