DOCUMENTATION OF DEMONSTRATION PROJECT EXPERIENCES

A Demonstration Project on Community Based Waste Recycling Project in Partnership with the Municipality and other Partners, Dehiwala Mt. Lavinia Municipal Council Area (DMMC) Sri Lanka

Dehiwala Mt. Lavinia Municipal Council, Sri Lanka
UNDP / UN-Habitat Sustainable Cities Programme (SCP)
Sustainable Core Area Project (SCCP)

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A Demonstration Project on Community Based Waste Recycling Project in Partnership with the Municipality and other Partners, Dehiwala Mt. Lavinia Municipal Council Area (DMMC)
Sri Lanka

May 2002

SEVANATHA - Urban Resource Centre
14, School Lane,
Nawala Road, Rajagiriya
Sri Lanka
Tel / Fax: 94-1-878893

Some Basic Facts about Dehiwala Mt. Lavinia Municipal Council Area
<table>
<thead>
<tr>
<th>Level of Local Government</th>
<th>Municipal Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent of Municipal Area</td>
<td>2120 Hectares (21.20 sq.km.)</td>
</tr>
<tr>
<td>No. of Municipal Districts</td>
<td>02</td>
</tr>
<tr>
<td>No. of Municipal Wards</td>
<td>29</td>
</tr>
<tr>
<td>No. of Elected members</td>
<td>29</td>
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**Population**

<p>| | |</p>
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<tr>
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<tbody>
<tr>
<td>Residential Population (2001)</td>
<td>209,787</td>
</tr>
<tr>
<td>Floating Population (2001)</td>
<td>150,000 (Estimate)</td>
</tr>
<tr>
<td>Average Population Density (2001)</td>
<td>99 p/ha</td>
</tr>
<tr>
<td>Annual Population Growth Rate (1995)</td>
<td>1.14 %</td>
</tr>
</tbody>
</table>

**Housing**

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Permanent Dwelling Units</td>
<td>30640 – 73 %</td>
</tr>
<tr>
<td>Slums / Old Settlements</td>
<td>6442 – 15%</td>
</tr>
<tr>
<td>Shanties</td>
<td>4648 – 12%</td>
</tr>
<tr>
<td><strong>Total No. of Units</strong></td>
<td>41713 – 100%</td>
</tr>
</tbody>
</table>

**Infrastructure**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Road Network</td>
<td>190 km</td>
</tr>
<tr>
<td>Sewerage Network</td>
<td>Covers part of the city</td>
</tr>
<tr>
<td>Garbage Generation</td>
<td>150 tons p/d</td>
</tr>
</tbody>
</table>

**Manpower**

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Cadre of Employees</td>
<td>2,370</td>
</tr>
<tr>
<td>Number in place (1999)</td>
<td>1,667</td>
</tr>
</tbody>
</table>

**Budget for 2000 (Amounts in Rupees)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Total Income</td>
<td>256,125,800</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>255,588,608</td>
</tr>
<tr>
<td>Surplus</td>
<td>537,192</td>
</tr>
</tbody>
</table>
1.0 BRIEF DESCRIPTION OF THE DEMONSTRATION PROJECT

1.1 Background of the Community and the Project

Badowita, a low income housing settlement came into being at the early 1990s as a relocation site developed by Sri Lanka Land Reclamation and Development Corporation (SLLR&DC) and the National Housing and Development Authority (NHDA), as part of the Greater Colombo Flood Control and Canal Development Project. The Badowita settlement lies in the Dehiwala Mount Lavinia Municipal Council (DMMC) area, which is about 10 km South of Colombo. The Badowita community consists of squatters who were residing along canals of Colombo city. There were about 1141 households resettled in Badowita under five separate stages (Stage 1 to 5).

Though a relocated settlement, the Badowita community did not receive essential amenities at the beginning. Each household was provided with a 50 sq.m. land lot (on a temporary permit) and a housing loan from the NHDA to build their houses. At the beginning, they had shared facilities such as common toilets, shared water taps etc. Most of the roads were unpaved, no solid waste collection was in operation.

Due to poor coordination of the settlement activities, the DMMC did not get involved in the maintenance of the settlement. However, around 1996/97, when the project implementing agencies gradually withdrew from the community, the community had no alternative but to look towards the municipality (DMMC) for assistance to solve their problems.

As per the Municipal Council Ordinance, the DMMC has no authority to spend its funds on this community since they were not rate payers. However, due to involvement of service improvement projects such as the Urban Settlements Improvement Project (USIP) of the Ministry of Housing & Urban Development and a local NGO called SEVANATHA the Badowita community gradually gained recognition in the Municipality. Subsequently, the municipality was sympathetic towards the community of Badowita on the grounds of safeguarding the public health of the people.

Subsequently, a UNDP / UN-Habitat Sustainable Cities Programme (SCP) which was working with the 3 Colombo core area MCs of CMC, DMMC and SJKMC was requested to assist this community in Colombo had included DMMC in the project.

The Badowita low income settlement was identified as one of the priority communities to start a solid waste improvement programme as the community had demanded to address this issue. As a result, a joint programme was implemented involving the DMMC, USIP, SLLR&DC, SEVANATHA, the community, Sri Lanka National Paper Corporation, Ceylon Glass Company and JICA Volunteers Programme to address the solid waste problem of Badowita. This programme which was initiated at the beginning of year 2000 has generated positive results by middle of 2001 which is currently operating very successfully.
At present Badowita low income community understood the value of keeping their environment free of garbage and realized that the waste as a resource, should not be thrown out. In Badowita, a community based solid waste management project is in operation which includes sorting of garbage into biodegradable and non-biodegradable waste and running a recycling center for non-biodegradable waste. This paper highlights some of the key issues of the Public Private Partnership and Community Participatory Process of the above project where a collective effort has generated positive results in community level solid waste management.

1.2 Objective of Badowita Waste Management Project / Recycling Centre

The main objective of the project was to promote active community participation in managing the solid waste in the community while promoting micro enterprises around recyclable waste which would help to reduce the volume of mixed waste entering into the municipal waste stream.

1.3 The Project Approach

Participatory consultative approach with key stakeholders was used as the approach of Badowita Waste Management Project.

1.4 Key Steps of the Project

Step 1 : Identification of key stakeholders (partners)
Step 2 : Forming a Project Working Group at DMMC
Step 3 : Meetings & Consultations with the community to prepare a community action plan
Step 4 : Identification of responsibilities of key stakeholders
Step 5 : Carrying out community awareness campaigns
Step 6 : Municipality handling of biodegradable waste
Step 7 : Community engaged in separation of waste at source
Step 8 : Developing a mechanism for community handling of non-biodegradable waste
Step 9 : Community engaged in collection and sale of recyclable waste
Step 10: Monitoring of the process and experience sharing with other municipalities and government institutions.

2.0 PARTNERS ENGAGED IN THE PROJECT

Badowita Solid Waste Management Project was a unique case where many partners have played a specific role which eventually contributed to generate sustainable community level initiative. The partners and their responsibilities are indicated below.

<table>
<thead>
<tr>
<th>Partner</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Federation of CBOs in Badowita</td>
<td>• Organized the community</td>
</tr>
<tr>
<td></td>
<td>• Participated in Working Group meetings</td>
</tr>
<tr>
<td></td>
<td>• Participated in trainings and exchange visits</td>
</tr>
<tr>
<td></td>
<td>• Developed a strong relationship with the Municipal Council (DMMC)</td>
</tr>
<tr>
<td></td>
<td>• Engaged in source separation of waste</td>
</tr>
<tr>
<td></td>
<td>• Participated in a foreign study tour</td>
</tr>
<tr>
<td></td>
<td>• Managing the waste recycling centre activities</td>
</tr>
<tr>
<td></td>
<td>• Participated in construction of the recycling centre building as a community contractor</td>
</tr>
<tr>
<td>2.2 Dehiwala Mt. Lavinia Municipal Council</td>
<td>• Took a decision to improve the health and sanitation conditions of Badowiata community</td>
</tr>
<tr>
<td>(DMMC)</td>
<td>• Invited relevant partners to join hands with DMMC</td>
</tr>
<tr>
<td></td>
<td>• Accepted participation of NGO – SEVANATHA</td>
</tr>
<tr>
<td></td>
<td>• Established a Project Working Group at DMMC</td>
</tr>
<tr>
<td></td>
<td>• Identified staff to work on the project</td>
</tr>
<tr>
<td></td>
<td>• Mobilized funds, man power and equipment to remove biodegradable waste on a specific time schedule</td>
</tr>
<tr>
<td></td>
<td>• Provided support required by the community organization of Badowita to run the recycling centre activities</td>
</tr>
</tbody>
</table>

Responsibilities
<table>
<thead>
<tr>
<th>Partner</th>
<th>Activities</th>
</tr>
</thead>
</table>
| **2.3 Sri Lanka Land Reclamation and Development Corporation** | • Provided support to Working Group at DMMC  
• Actively participated in meetings and field work  
• Provided a land lot to put up a recycling centre at Badowita |
| **2.4 National Paper Corporation of Sri Lanka** | • Participated in Working Group meetings  
• Conducted training programme for Working Group members on waste paper recycling and purchase of paper by the corporation |
| **2.5 Ceylon Glass Company** | • Participated in Working Group meetings  
• Conducted a training programme for Working Group members and explained the process of purchasing used bottles / glasses |
| **2.6 Sethsevana (a NGO partner engaged in plastic recycling business)** | • Participate in Working Group meetings  
• Conducted a training programme for Working Group members and explained the process of purchasing plastic / polythene etc. |
| **2.7 Japanese International Corporation Volunteers Programme (JICA)** | • One JICA volunteer was working on full time basis in Badowita community primarily running children’s programmes who played a vital role in mobilizing the community members especially women groups  
• Participated in all the Working Group meetings and training programmes  
• Provided support to community leaders in organizing the project activities |
<table>
<thead>
<tr>
<th>Partner</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| 2.8 JBIC assisted Urban Settlements Improvement Project (USIP) Office of the Ministry of Urban Development | • Provided support to the project Working Group  
• Assisted in organizing training programmes for partners  
• Actively participated in community mobilization work  
• Provided funds for construction of the recycling centre building  
• Continuously participated in meetings and training programmes |
| 2.9 Sustainable Cities Programme (SCP)                                  | • Provided financial support to meet part of the cost of the recycling centre building  
• Introduced the SCP Working Group Process to plan and implement the project  
• Provided support for the exchange visit abroad  
• Engaged in exchange of information with other partners |


<table>
<thead>
<tr>
<th>Partner</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| **2.10 SEVANATHA – Urban Resource Centre (NGO Partner)** | • Initiated the community based solid waste management activity in Badowita  
• Convinced the DMMC to start on the project  
• Linking up the community with DMMC  
• The very idea of "Recycling Centre" was put forward to the Working Group  
• Engaged in mobilizing the community and strengthening the CBO  
• Act as the main link between the community and other partners  
• Actively engaged in promoting Community Based Partnership Approach to solid waste management  
• Organized a study tour to Bangkok and Manila (with funding assistance from ACHR and SCCP) to study community based SWM projects in which municipal officials and a community leader of Badowita participated. |
| **2.11 UN-Habitat Sustainable Cities Programme – SCCP Project Working Group** | • Introduced the SCP Process  
• Established SCCP Project Working Group at DMMC  
• Provided funding support to DMMC  
• Project upscaling & dissemination |
3.0 PROJECT IMPLEMENTATION PROCESS

The project implementation process can be summarized into four key tasks which included all the ten key steps mentioned above. Upon identification of the issue, key stakeholders were recognized and invited to form the Project Working Group. A series of discussions were held by Working Group members and initiated the process of dialog with the community members. Preparation of community action plan for undertaking SWM activity was thus carried out as a major activity with the community. Some of the important activities of the above process are described below.

3.1 Preparation of community action Plan for Solid Waste Management

i. Before initiating the project, the project team has focussed its attention on an assessment of the needs and aspirations of the community towards the project and on participation of the community in project activities.

ii. With these considerations, a community action planning workshop was organized, attended by community representatives along with the representatives from relevant organizations to prepare an action plan for SWM problem.

iii. At the workshop, the participants agreed on the following strategic actions for Badowita SWM problem

- Create community awareness to separate garbage at household level primarily into biodegradable and non-biodegradable (recyclable) waste
- Biodegradable waste to be kept in the house for two days and hand over to the municipal tractor which comes once in two days time.
- Recyclable waste be handed over to the collectors appointed by the DMMC who visits individual households twice a week
- These recyclable waste will be brought to the waste recycling center and separated into several items such as paper, cardboard, plastics, bottles polythene etc. and stacked for sale by the community members who work at the center.
- Properly separated items will be sold by the community to the buyers such as National Paper Corporation. The income will be managed by the CDC Federation of Badowita.
• Income of the waste recycling center is used to cover its running costs and part of its become an income for the CDC Federation (i.e. 60% and 40% of the earning will be shared as above.)

3.2 Community Mobilization and Awareness raising

i. After preparation of the strategic action for SWM, an awareness raising campaign was organized to educate the community on this new SWM project.

ii. SEVANATHA and USIP (Urban Settlements Improvement Project) have organized a number of training sessions for the CDC leaders where officials of the relevant organizations too participated.

iii. A branch of the municipal depot was established in the community to monitor the project activities by transferring a work overseer to Badowita.

iv. Following that, CDC leaders along with the staff of DMMC, USIP, JICA and SEVANATHA jointly visited the individual households on two consecutive dates and made aware the beneficiary families on the activities of the project. An information kit (a letter by His worship the Mayor, introductory note of the project, guide for using the two garbage bags provided by the municipality etc) made in local language was provided to each and every family to make sure proper understanding of the project.

v. The DMMC announced about the awareness programme in the community using loud speakers on the previous day evening.

vi. During the household visit, the project team has informed the beneficiary families regarding the collection methodology and the dates on which biodegradable waste and the recyclable waste are collected.

3.3 Introducing the community managed recycling center

i. After the community mobilization process was over in the settlement, when the people were ready to involve in the project, the project team has distributed the two-polythene bags of two different colours for each household to collect garbage till the collectors visit their houses.

ii. A date was fixed to collect the biodegradable and recyclable waste on the basis of twice a week and informed it to the community in advance
iii. Biodegradable waste was collected by the municipal collectors using a tractor and be disposed at a disposal site by the municipality.

iv. Non-biodegradable waste is collected by two workers from the settlement itself employed by the DMMC who bring the waste to the recycling center.

v. One community leader was trained with the assistance of the relevant organizations like Ceylon Glass Company, National Paper Company, and Sethsevana NGO to separate the waste according to their requirements.

vi. This person was appointed as the Manager of the recycling center by the CDC federation who was assigned the responsibility for separating the waste every day with the ladies who collect the waste.

vii. When the sufficient volume of waste is ready for sale the CDC federation will contact agencies who purchased the waste.

viii. The DMMC has agreed to provide a truck free of change to transport the waste to the purchasing centres which are located within 05 to 10 km from the community.

ix. Initially, the CDC federation used their community center for the waste recycling project, however community members did not like to use their community center to store the waste, because there was not sufficient space for a community gatherings. Therefore, CDC federation has discussed this matter at working group meetings and managed to find a support to build a permanent building for waste recycling center. The Sri Lanka Land Reclamation and Development Cooperation released a land lot of 10 perch (250 sq.km.) size within the settlement for the center. Urban Settlement Improvement Project of the Ministry of Housing, the SCCP project of the DMMC has shared the construction cost of center with the community. The CDC federation provided unskilled labor and managed the construction work (the building was constructed by the CDC federation as a contractor). The building was declared open by the Minister of Urban Development on 10th April 2002 and is now in operation.

3.4 Monitoring and Follow-up Activities

i. During the first two months of the project, a regular follow-up visits were made by the Working Group members to meet the households to see how they separate the waste at household level.
ii. Information on contact details of the responsible officers was provided to every family to contact directly if they have complaints to be made.

iii. The project progress was reviewed and monitored at working group meetings held once a month at the municipal office under the chairmanship of the deputy Municipal Commissioner.

iv. The DMMC has assigned two health volunteers to visit the households at least once a week to ensure that people participation in the waste management project as expected.

4.0 ACHIEVEMENTS OF THE PROJECT

i. The demonstration project helped the CDC federation to start a small recycling enterprise and provide a job opportunity for three (03) community members. Once in every two months, the CDC federation earn around Rupees 5,000 – 6,000 by selling the recyclable waste. They use 60% of the income to cover management cost and the balance 40% deposit in the bank account of CDC Federation for further community improvements. From November 2001 to 31 March 2002 the CDC federation has earned about Rs. 16,000/- (US $ 175).

ii. At present households of Badowita community are actively participating in separating their garbage into organic and the recyclable waste. The balance 10% still remain indifferent to the project for various reasons.

iii. Before, starting the project it was estimated by DMMC that 03 metric tons of waste collected from the area by using a tractor with 5 field staff (1 driver and 4 collectors) and delivered the waste to half a kilometer distance to the disposal site. The tractor used to visit the community two times per day for collecting the waste from the 10 communal collection points.

iv. But, after introducing the new system, it was revealed that volume of garbage coming to the municipal waste stream was reduced by about 30%. The municipal waste collectors have been minimized from daily collection to once in two day visits which would no doubt save money to the municipality.

v. All ten primary collection points where garbage are dumped on road sides was removed which was highly appreciated by the community.

vi. The area is getting much cleaner and pleasant due to reduced littering

vii. The community has developed sustainable linkages with the municipality and with other partners which would help improving their living conditions.
5.0 THE SUSTAINABILITY OF THE PROJECT

i. The project Working Group has paid serious attention on the sustainability of the project since its planning stage. The following key steps were taken to ensure the sustainability of the project.

ii. Project is managed by the community leaders themselves with the assistance provided by the DMMC and other partners

iii. The project is linked up with a sustainable system of raw material supply from household waste and was managed by local community leaders

iv. Established a Working Group at the Municipality to guide the project activities and to provide any assistance.

v. Commitment of local politicians and the municipal officials

vi. Continuous support by NGO SEVANATHA to community leaders to address their problems in the process

5.1 Replicability of the Project

i. This was the first ever community initiative in Sri Lanka in SWM to run a partnership project for earning an income. Positive results achieved through the project have already attracted requests for help some other municipalities of the country to start similar projects in their municipal areas

5.2 Lessons Learned

ii. On the whole the lessons learned from the demonstration project was very impressive as the participation of a local community with their municipal authority to share responsibilities of solid waste management has changed the attitudes of the project partners towards this new initiative.

iii. More importantly the project has proved that garbage is not something to be thrown out. It has some value. Careful handling of solid waste can bring benefits to the community.

iv. Partnership approach developed in Badowita could be extended to other areas of municipal service delivery involving wider stakeholder groups as project partners.
6.0 POSITIVE IMPACTS OF THE PROJECT

Badowita Community Based Partnership Project of Solid Waste Management has generated many measurable and immeasurable positive impacts. Some of the key positive impacts are indicated below.

i. Leaders of Badowita urban poor community has developed self confidence in building a partnership with their local authority.

ii. The urban local authority has realized the importance of sharing responsibilities with other partners in the city including the urban poor to solve the city's solid waste problem.

iii. Understanding the importance of consultative approach as against conventional method of exchanging letters among relevant parties by the DMMC.

iv. The significance of NGO partner as a strong link between the urban poor and the urban local authority in building trusted confidence and a cordial working relationship each other.

v. The project has demonstrated the possibility of getting community's support to a complicated task such as solid waste management through a careful learning by doing approach.

vi. The DMMC which never trusted the urban poor has changed its attitudes towards the poor by getting them actively involved in Badowita Waste Management Project.

vii. The community leaders had developed skills in running a collection centre for non-biodegradable waste (recycling centre) by their own and already earned about 16,000 Sri Lankan Rupees (approx. US $ 175) during the past 06 months period (November 2001 to April 2002).

viii. The Badowita community now has built a recycling centre building and a process of its operation which is being discussed at municipal level and government agency level where it will be replicated in many other local authorities in Sri Lanka.

The UN- Habitat supported Sustainable Cities Programme (SCP) which is in operation in Colombo has already taken steps to promote this idea within about seven (07) other urban local authorities in the Western Province.
7.0 COST BENEFITS OF THE DEMONSTRATION PROJECT

At the beginning of the project, the Working Group did not consider it to be a successful project because of the issues involved were so complicated and took about one and a half years for the project activities to come to a reasonable shape. Therefore, it is hard to make a precise cost benefit analysis of the project. However, an attempt was made to list the key information which would help prepare a brief list of costs and benefits of Badowita recycling centre project.

7.1 Information Related to Cost Aspects

Direct Costs

i. Cost of the land used for recycling centre building (250 sq.m. size)
ii. Cost of the building including the fencing of the site
iii. Cost of service connection to the building i.e. electricity, and water connection
iv. Furniture and equipment cost
v. Operation costs
   • Manager's payment
   • Payment for 02 collectors
   • Payment for the watcher of the building
   • Monthly electricity & water bills
   • Monthly lease payment to DMMC
   • Transport cost of materials to purchasing centers
   • Tips for the truck driver and helper
   • Miscellaneous expenses (stationery / communication & postdate)
   • Loading and unloading cost
   • Transport allowances for CDC Federation leaders

Direct Benefits

i. Cost savings on labour, equipments and transport for the DMMC due to reduced collection trips of garbage
ii. Earning from sale of recyclable materials by the centre (per month)
iii. Direct employment opportunities for four community members (manager, two collectors, one watcher / helper of the centre)
iv. Income for the households who collect recyclable waste (not yet started purchasing the waste by the centre)

Indirect Benefits

i. Improved community environment (litter free access roads and canals)
ii. Less vulnerability to diseases (particularly children and women)
iii. Training and skill improvement for community leaders to handle partnership projects
iv. Improved access and better relationship between the community leaders and their local authority (DMMC)
v. Change of attitudes of the entire community towards waste management (positive change)
vi. Possibility of involving children in environmental improvement activities in the settlement
vii. Replicability of the demonstration project in other parts of the country

All the above aspects and many others can be included in carrying out a proper cost benefit analysis of the demonstration project which many be undertaken as a separate exercise in the future.

7.2 Some Direct Costs Savings to the Municipality

<table>
<thead>
<tr>
<th>Prior to Starting the Project</th>
<th>After the Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No. of vehicles used:</td>
<td>1. No. of vehicles used:</td>
</tr>
<tr>
<td>One Tractor</td>
<td>One Tractor</td>
</tr>
<tr>
<td>2. No. of trips made by tractor</td>
<td>2. No. of trips made by tractor</td>
</tr>
<tr>
<td>02 trips per day</td>
<td>01 trip in two days</td>
</tr>
<tr>
<td>3. Payments for man power</td>
<td>3. Payments for man power</td>
</tr>
<tr>
<td>01 driver</td>
<td>01 driver</td>
</tr>
<tr>
<td>04 labourers</td>
<td>02 labourers</td>
</tr>
<tr>
<td></td>
<td>02 collectors (non-biodegradable waste)</td>
</tr>
<tr>
<td>4. Time involved in work</td>
<td>4. Time involved in work</td>
</tr>
<tr>
<td>From 8.00 a.m. to 2.30 p.m.</td>
<td>From 8.00 a.m. to 11.00 a.m.</td>
</tr>
<tr>
<td>5. Fuel used per day</td>
<td>5. Fuel used per day</td>
</tr>
<tr>
<td>08 lt. of diesel</td>
<td>04 lt. of diesel</td>
</tr>
</tbody>
</table>

Monthly Cost Calculation

<table>
<thead>
<tr>
<th>For labour</th>
<th>Rs.</th>
<th>For Labour</th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver 01 No.</td>
<td>6515</td>
<td>Driver 01 No.</td>
<td>3257</td>
</tr>
<tr>
<td>(5980 x 4)</td>
<td>23920</td>
<td>Labours 02 Nos.</td>
<td>5980</td>
</tr>
<tr>
<td>For Fuel (08 lt. per day for 30)</td>
<td>6720</td>
<td>Collector 02 Nos.</td>
<td>11960</td>
</tr>
<tr>
<td>Total</td>
<td>31291</td>
<td>For Fuel 04 lt. per day for 15 days</td>
<td>1680</td>
</tr>
<tr>
<td>Total</td>
<td>22877</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As seen in the above rough calculation, it is evident that the municipality has a monthly savings of Rupees 8414 (US $ 93) in pure monitory terms. However, when looking at the many indirect benefits that are immeasurable involving the attitude changes of the community and the officials, the aspects of health and environmental improvement of Badowita, it can be argued that the project has had brought about many positive benefits to the community.