COMMUNITY BASED
SOLID WASTE MANAGEMENT PROJECT
2016-2018



Linking Local Actions to the Global Agenda

Focus on **Pakistan & Sri Lanka**

CITYNET YOKOHAMA

OPEN YOKOHAMA

PIEDAR

HELP-O

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1.0 Introduction

1.1 Acknowledgements

This document aims to inform and educate on practical actions and lessons learned through community based solid waste management, a concept central to creating viable solutions to this increasing global issue.

The **Community Based Solid Waste Management Project** took place in both Pakistan and Sri Lanka between 2016-2018. This project is thanks to a collaboration between local non-governmental organizations PIEDAR in Pakistan and HELP-O in Sri Lanka, together with the City of Yokohama and CITYNET Yokohama Project Office. It is our hope this report serves to assist other municipalities in addressing the multi-faceted issues related to solid waste management. We would like to thank and acknowledge the efforts of all partners involved in the project.

1.2 Partners

PIEDAR
(Pakistan Institute for Environmental-Development Action Research)

PIEDAR was established in 1992 as an independent not-for-profit entity, and has been an associate member of CITYNET since 1993. Its mission is to research, develop and share best practices in environmental management and sustainable livelihoods. It seeks to influence policies for achieving an environmentally-aware, productive, equitable and conservation-oriented society.

PIEDAR has developed manuals for integrating environmental education into primary and secondary schools, as well as teacher training. The co-curricular program builds habits and values among schoolchildren for natural resources management, waste reduction, re-use and recycling. PIEDAR undertakes these activities in partnership with state schools and low-fee private schools in urban and rural areas. PIEDAR also advocates a people-centered and community-led approach to water supply, sanitation and hygiene, and solid waste management, based on extensive experience of working with residents of squatter settlements and villages. Currently, PIEDAR is engaged in negotiations with the federal government for upgrading the national environmental curricula.

HELP-O Sri Lanka
(Human & Environmental Links Progressive Organization)

HELP-O has been a registered non-profit organization and an associate member of CITYNET since 1991 and 1999, respectively. HELP-O's mission is to develop and balance human and environmental progress in rural and urban areas. A major area of focus is environmental conservation and waste management; however, many of their projects extend beyond this.

With the project of '**Promoting Integrated Community-Driven Waste-Free City in Galle'.** HELP-O utilized their connections with local stakeholders, community leaders and women's group leaders, particularly in China Garden Ward where they were able to successfully implement awareness programs.

HELP-O also provided opportunities for discussion with local residents and city officials. Furthermore, they played an important role in allowing students to participate in a house-to-house visitation program. HELP-O also helped create opportunities for low-income residents by transforming old rice bags into recycling bags; now a job available to low-income women.

HELP-O was awarded recognition from the United States-Asia Environment Program (US-AEP) for implementing a sustainable waste management program and constructing a biogas unit in Karapitiya Teaching Hospital. They received recognition by the United Nations Centre for Human Settlements (UNCHS) for their service to poor people.

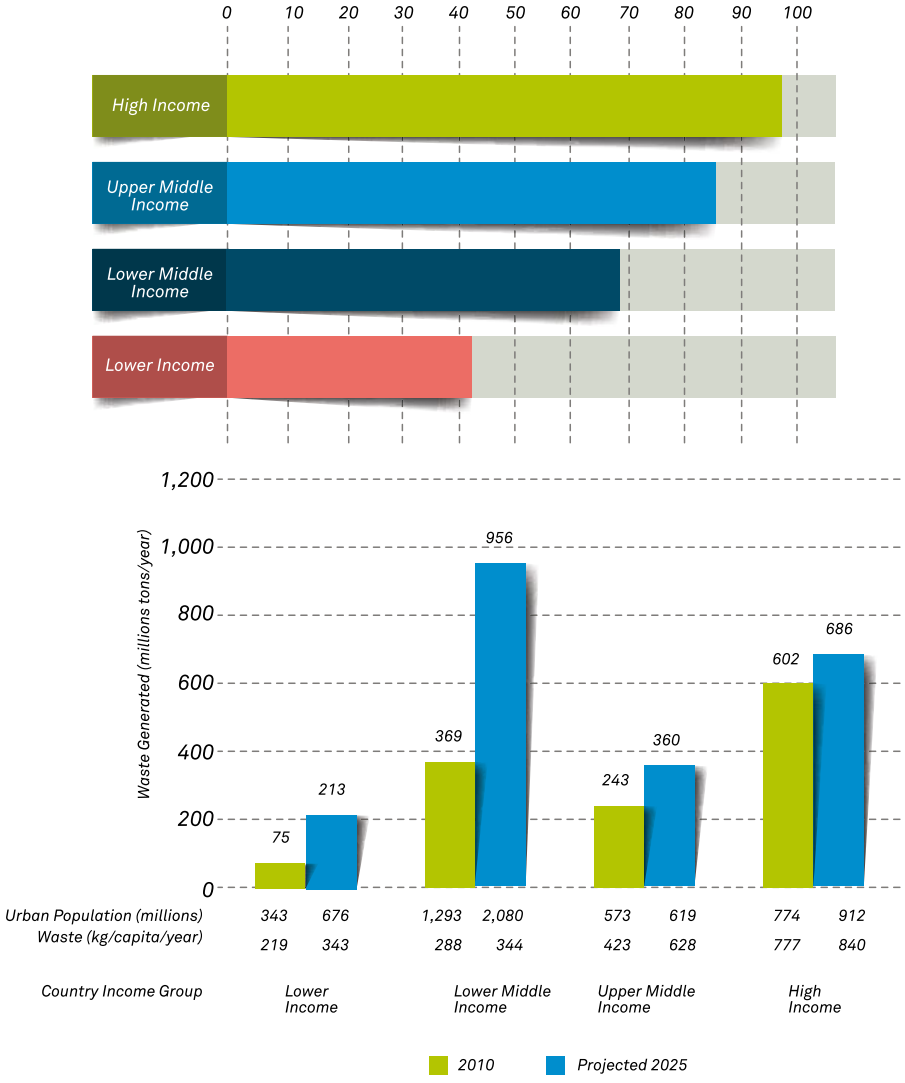
1.3 Solid Waste Crises



It is undeniable that there is a growing global crises of solid waste management. This is also the case in Asia, and the problems associated with poor solid waste management practices such as pollution, environmental damage and health issues, has hit developing countries the hardest. Generally speaking, increased economic growth and development means increased production of solid waste. This has created the urgent need for strategic and viable solutions to the issue.

According to the World Bank[1] solid waste output will increase 2.6 times in lower and middle-income countries and will increase 2.8 times in lower income countries from 2010 to 2025.

Waste Increase & Waste Collection in Developing Countries



Resource: Policy Coordination Division, Resources and Waste Recycling Bureau, City of Yokohama

1.4 Collection of Solid Waste & Open Dumps

The World Bank also states[2] that currently approximately 30-60% of all the urban solid waste remains uncollected and less than 50% of the worldwide population has access to solid waste services.

In high-income countries, municipalities and private corporations collect more than 95% of solid waste. However, in lower and middle-income countries the situation is very different with less than 70% of solid waste being collected. In lower income countries, the situation is even more extreme with the collection rate at less than 50%. The uncollected solid waste remains somewhere in the city, town or an open space.

Even when waste is collected, it often ends up in open dumps and causes serious issues such as noxious odours and land, water, and air pollution. This has created a major public health problem in many municipalities and urban centres, and contributes to global issues such as climate change.

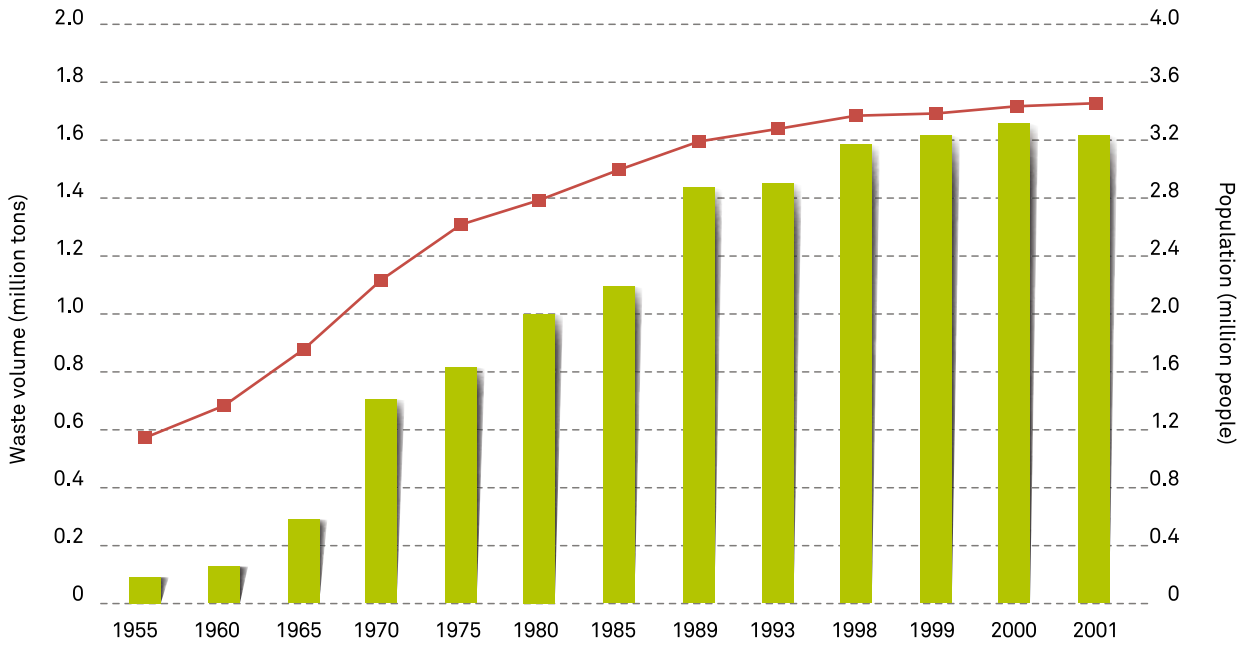
What will happen to our cities and towns if the amount of solid waste doubles or even triples? The result will be tragic, to say the least.

1.5 Yokohama's Contribution to Solid Waste Management through CITYNET

The City of Yokohama has experienced a number of transitions and challenges in relation to its solid waste management issues. From 1955 to 2001, Yokohama became more affluent due to rapid economic development. At the same time, Yokohama's population increased significantly; it more than tripled from approximately 1.1 million to 3.5 million, while, at the same time, solid waste increased from 0.1 to 1.6 million tons, representing a rise of almost 16 fold. A similar trajectory can be expected to be seen in developing countries.



Changes in Waste Production in Yokohama, Japan - 1955 to 2001



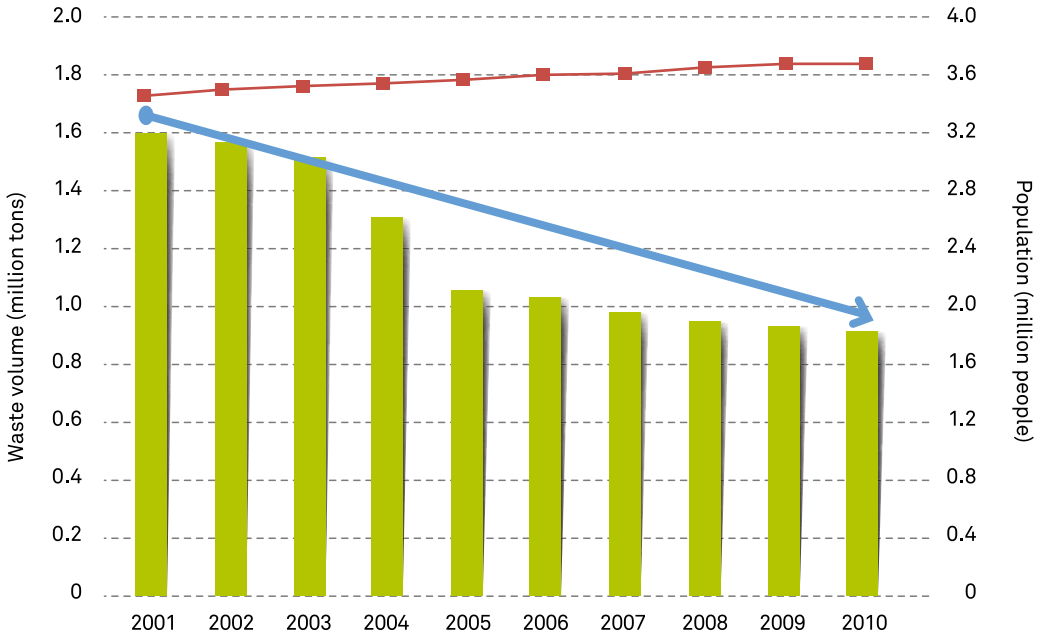
Resource: Policy Coordination Division, Resources and Waste Recycling Bureau, City of Yokohama

[1-2] What a Waste – A Global Review of Solid Waste Management (World Bank), 2012

With Yokohama's rapidly growing population and unsegregated solid waste, the City faced numerous challenges. One of the most difficult issues was designating a final disposal site for the growing waste. In response to the need for more strategic solid waste management, the City of Yokohama initiated a comprehensive long-term project called the **Yokohama G30 Plan.** One of the major goals of the plan was reduce waste production by 30% by 2010.

From 2001 to 2010, Yokohama's population continued to gradually increase. Despite this increase, solid waste production decreased from 1.61 million tons to almost 0.91 million tons. This translated into a reduction of almost 43.2%.

Changes in Waste Production in Yokohama, Japan - 2001 to 2010



Carrying out the G30 Plan provided a significant learning opportunity for the City of Yokohama. As a member of CITYNET, Yokohama shared its best practices in waste reduction and management and participated in projects with other CITYNET member cities in the Asia-Pacific Region. From 2004 to 2005 the City of Yokohama carried out AWAREE[3] projects in Hanoi (Vietnam) and Phnom Penh (Cambodia). Following AWAREE, the City of Yokohama also carried out the project Post AWAREE from 2007 to 2010 in Colombo, Dhaka, Danang and Makati. From 2016 to 2018 they participated in the Community Based Solid Waste Management Projects in Pakistan and Sri Lanka.



[3]AWAREE is a multi-faceted project on integrated environmental education in Asian cities. It was implemented by CITYNET and the City of Yokohama and sponsored by JICA.

1.6 Lessons Learned

For the CITYNET Yokohama Project Office some of the major lessons learned through fulfilling projects with CITYNET Members are as follows:



01

Localization
Through the Yokohama G-30 Plan the City of Yokohama gained further experience and know-how on organizing local projects. For these to be impactful, projects must be localized according to the social, economic and historical contexts particular to the local community.

02

Segregation
In Yokohama, waste is segregated in up to10 categories. However, segregation does not make sense unless there are ways to reuse or recycle. In Galle, Sri Lanka coconut shells are classified as "non-organic" because they are slow to ferment. As such, they are deemed not suitable for compost and often dumped in open spaces. However, a recent pilot project has successfully segregated coconut shells from other waste and then used to make milk. Thus the coconut shell is now considered a valuable resource instead of waste.

03

Awareness programs
Many cities face a problem of non-segregation of solid waste. A potential solution often discussed is imposing penalties or fines on citizens who do not comply. However, a more constructive way to realize segregation is through education and awareness programs. In Yokohama, awareness and education programs were run over 11,000 times over a two-year span.

04

Community-based projects
Even though large projects and budgets are allocated for solid waste management issues, unless residents start taking responsibility in implementing the activities and minimizing waste, it would be difficult to expect an effective impact on improving conditions.

05

Linking local actions to the global agenda
People tend to think that climate change is a global, political and industrial issue and has little to do with daily life. However, it is important to realize that daily attitudes and activities have an impact on a global scale.

06

Cooperation with non-profit organizations (NPOs) and local governments
Generally speaking, local governments often have more capacity than NPOs in terms of budget and human resources. They also have more bureaucracy and procedures to follow. On the other hand, NPOs can move and decide things more rapidly. In this sense, cooperation between NPOs and local government can be more beneficial.

2.0 Schoolchildren-led Sustainable Materials Management in Rawalpindi-Islamabad



2.1 Solid Waste in Pakistan

In Pakistan, municipal solid waste (MSW) management is a function of local governments. Traditionally, solid waste departments of metropolitan corporations and municipal administrations of smaller towns are responsible for the collection, transfer and disposal of solid wastes. In fact, 80-90% of the budgets of local governments are expended on MSW management. Provincial governments have set up solid waste management companies in some cities/wards with a view to consolidate sector operations.

Cities and towns in Pakistan generate around 0.3–0.6kg per capita per day of mixed solid waste.[4] Around one-half of it is actually collected by the designated agencies. Sanitary workers equipped with wheelbarrows collect the waste from houses and establishments, small community heaps and dustbins, and transfer it to collection points. The waste is transported by tractor-trolleys and other (usually) open-bodied vehicles from the collection points to dumping sites. Karachi and most other large cities have designated landfill sites, while wastes are open-dumped elsewhere. Incineration is practiced at a pilot scale. The incineration plant at Mewa Shah, Karachi has a capacity to handle 0.025% of the city's waste, for example.[5]

A network of scavengers extracts value from the waste. The network picks up almost 100% the metals and glass, and around 95% of paper and an estimated 60% of plastic waste for re-use and recycling. The environmental benefits of this non-formal activity are large but have not been researched and documented, while the downside is its use of child labor.[6] Two hazardous practices common in Pakistan are the open burning of yard wastes and the use of plastic bags to start damp woodstove fires.

MSW has increased in weight and complexity along with the growth in urban populations and their consumption in recent decades. But the capacities of local governments to manage the MSW have not kept pace. The contribution of the informal sector to MSW management has not been properly appreciated. Corporate arrangements for MSW management are still at a trial stage.



[4]SabihaJavied et al. 2014 Management of MSW generated in eight cities of Pakistan, IJSER. Volume 5, 12, December 2014
[5]Ibid
[6]Sadaf Pervez 2013 Turning trash into cash, The Express Tribune Magazine, January 13, 2013

2.2 Project Objectives

The Community Based Sustainable Materials Management Project was carried out in three low-fee private schools and an NGO-run school located in Pakistan. The main objective was for children from local schools in Islamabad and Rawalpindi, Pakistan, (ranging in ages from about three and a half to 16/17 years old) to learn about Sustainable Materials Management (SMM) and its best practices within a regional context.

Other objectives include:

- Sharing of results of active student research with stakeholders
- Demonstration of key practices by students to shopkeepers of neighbouring markets

Examples of key practices include:

- Making a habit of disposing waste in waste bins at all locations e.g. around the school (the classroom, playground, etc.), markets, public parks and home
- Practicing proper segregation of waste i.e. paper, plastic, organics, and disposable waste
- Reusing and recycling: regular practice involving both students and teachers is important
- Developing confidence in students for the diligent practice of reminding neighbouring shopkeepers about proper waste disposal
- Developing school and market surveys
- Surveys done by school principals, teachers and students
- Collecting, listing and weighing of waste materials on school grounds
- Neighbourhood community visits
- Visiting schools to decide on Earth Day events
- Homework assignments regarding 3Rs (reduce, re-use, recycle) and SMM
- Poster contest, speech contest with the theme of SMM on Earth Day



2.3 Local Situation & Background Information

The participating private schools and the NGO-run school were located in low-income and fringe localities, adjacent to local markets with large waste volumes. Approximately half of the solid waste in the area is not properly collected, and dumped openly in streams and other low-lying areas. The waste creates noxious odours and is scavenged and scattered by waste pickers and stray animals; it is therefore a major public health issue.

2.4 Main Activities at Schools & Neighbourhood Markets

- Videos and presentations shown at schools to improve the awareness of students
- Making dustbins by using paint buckets and placing them at strategic points around the school grounds
- Guidance of students to segregate food leftovers before waste disposal at break time
- Focus-group discussions with teachers on Sustainable Material Management

2.5 Outputs & Challenges

Name	Behbud Primary School	Pakistan Cambridge School	Rising Star School	Brightland Secondary School
Place	Saidpur, Islamabad	Nazimabad, Pindora, Rawalpindi	Chaklala, Rawalpindi	Satellite Town, Rawalpindi
No. of participating teachers and students in the SWM Program	426 students (including 183 girls) in 17 classes from KG to class V, and 25 teachers exposed to SMM concept and practices.	260 students (including 120 girls) in 13 classes from KG to class X , and 20 teachers exposed to SMM concept and practices.	150 students (including 54 girls) and 10 teachers exposed to SMM concept and practices.	350 students (including 150 girls) and 25 teachers exposed to SMM concept and practices.
Attitudinal, behaviour and habit changes	Less littering and wasting of food, and collection and sale of used paper. Small dustbins (39) placed in classes and corridors.	Waste reduction and segregation.	Waste segregation.	Proper use of dust bins.
Quantity of waste	No more biodegradable waste. Waste reduced to half.	Campus waste reduced from 1.5 kg/day to 0.5 kg/day.	Range of useful products made by re-using and recycling materials, to reduce waste volumes by half, and improve classroom cleanliness.	N/A
Segregation	Segregates biodegradables, paper and plastic	Segregates paper, plastic and left over food.	Segregates waste into six categories and provides monetary benefits to cleaning staff. There are six categories: paper, bottles, cans, plastic, fruit peels and lunch leftovers.	Segregates paper and plastic.
Others	SMM incorporated in daily break time and arts and crafts.	SMM being incorporated in science and arts and crafts.	SMM institutionalized. SMM incorporated in arts and crafts curriculum.	SMM incorporated in school's annual exhibition: products made with reused materials.
Challenges	CYO support was required for repeated outreach that was essential for ABH change. After breaks/vacations, the school requires a SMM refresher-course for new student cohorts. No change in the waste disposal practices of the large food court in Saidpur Heritage Village owing to frequent turnover in the management of this public sector (CDA) establishment.	CYO support was required for extension work and repetition of key concepts in SMM. Inadequate capacity to develop narratives (e.g. self-explanatory video-documentaries) and curricula from the rich SMM materials generated at the school and in the neighbourhood.	Frequent repetition of SMM do's and don'ts is necessary for the younger students. It is unclear how to upscale and expand upon the original SMM campaign beyond the initial positive response of the shopkeepers.	The frequent turnover of teachers slowed the pace of SMM activities and requires repeated training of school staff. Outreach was limited to neighbouring households; students and teachers were not able to extend SMM messages to neighbourhood markets owing to security reasons.

2.6 Evaluation & Project Sustainability

A SMM program assessment workshop was held on July 31, 2017 at the PIEDAR office. The following are highlights of questions and responses covered during the workshop:

Q. Have there been any changes to SMM practices in your schools, or in the homes of your students, and in neighbouring local markets during the past year?

A. Along with more awareness, there are positive changes in attitudes and behaviors. Students no longer think it's a menial task to pick up litter or to clean their classrooms and schoolyards. All schools have reused and remodeled paint buckets and cooking oil tins to be used as dustbins in classrooms, school toilets and schoolyards. School children have shared the SMM concept with parents and siblings. A significant proportion of families have responded positively by introducing SMM practices in their homes.

Q. What are your future plans for the continuation of the SMM program in your schools, homes and local markets?

A. School principals have made the following commitments on behalf of their schools:

- To continue the implementation of the SMM program with a focus on waste segregation and composting. In addition, schools will take part in seasonal tree planting campaigns.
- To continue the Environmental Clubs program, and to extend the SMM message to neighbouring schools and to other notable school systems in Pakistan, such as the Army Public Schools.
- To seek support from the Behbud Board (local board) for the continuation of the SMM program, particularly for the installation of dustbins in all appropriate locations at local schools.
- To hold quarterly meetings in the coming year in order to review the ongoing program and to consider possible additional components, such as eco-entrepreneurship, arts and crafts classes, and linkages, such as SMM promotion via social media.



Baseline & Endline Evaluation

This table shows the indicators used in the Sustainable Materials Management (SMM) questionnaire and the results of joint baseline and end-line evaluations in the selected schools.

Indicators	**Pakistan Cambridge School**		**Behbud Primary School**		**Brightland School**		**Rising Star School**	
	Baseline	**Endline**	**Baseline**	**Endline**	**Baseline**	**Endline**	**Baseline**	**End-line**
	9/2016	8/2017	9/2016	8/2017	9/2016	8/2017	8/2016	8/2017
1. Corridors								
1.1 Dustbins	No	Yes	No	No	No	Yes	No	Yes
1.2 Cleanliness	Good	Excellent	Fair	V. good	Fair	Good	Good	Excellent
1.3 Cleaning	2^{X}Weekly	Daily	Daily	Daily	2^{X}Weekly	Daily	Daily	Daily
2. Classrooms								
2.1 Dustbins	Some	Yes	No	Yes	Some	Yes	Yes	Yes
2.2.Proper use of dustbins	No	100%	No	90%	No	70%	45%	95%
2.3 Cleanliness	Fair	V. good	Good	V. good	Fair	V. good	Good	V.good
2.4 Cleaning		Daily	Daily	Daily	2^{X}Weekly	Daily	Daily	2^{X}Daily
3. Toilets								
3.1 Dustbins	No	Yes	No	Yes	No	Yes	No	Yes
3.2 Cleanliness	Fair	Excellent	Fair	Good	Bad	Good	Good	V. good
3.3 Cleaning	Daily	2^{X}Daily	Daily	Daily	Weekly	Daily	Daily	Daily
4. Segregating Materials								
4.1 Separate Dustbins	No	Yes	No	Yes	No	Yes	No	Yes
4.2 Proper use of dustbins	-	Yes	-	Yes	-	Yes	-	Yes
4.3 Re-Use/ Recycling	Re-Use	Yes	No	Yes	No	Yes	Re-Use	Yes
4.4 Composting bio-materials	No	No	No	Yes	No	No	No	Yes
4.5 Proper final disposal	No	Yes	No	Yes	No	Yes	No	Yes

Notes on the options in the questionnaire:
1. Dustbins (Yes/No/Some)
2. Cleanliness (Bad, Fair, Good, Very Good, Excellent)
3. Cleaning (Monthly, Weekly, 2*Weekly, Daily, 2*Daily)
4. Proper use of dustbins (%)
5. Re-use/Recycling (Y/N)
6. Composting of bio-degradable materials (Y/N)
7. Proper final disposal (Y/N)

3.0 Promoting Integrated Community-Driven Waste-Free City in Galle



3.1 Solid Waste in Sri Lanka

Municipal Solid Waste is a major problem in Sri Lanka. The predominant method of dealing with solid waste is open dumping due to its low cost and lack of processing. This practice has serious consequences: it poses significant health, environmental and economic damage. As the composition of waste in Sri Lanka is organic, composting is considered a more viable and "technically appropriate" method of managing municipal waste.

Until recently, only a few local authorities have been using the composting method to manage solid waste, however, there are no (or very few) comprehensive economic feasibility studies.[7]

3.2 Project Objectives & Outline

3.2.1 Solid Waste in Galle



Galle is the third largest growing city in Sri Lanka. They are currently in a solid waste management crisis as they deal with and dispose a huge quantity of solid waste (40 –45 tons) daily. Although disposal using landfill sites was used in the past, this is not practiced now. More recently, open dumping is becoming commonplace, even in environmentally-sensitive areas due to non-availability of new dumping sites.

Solid waste management is handled by the Galle Municipal Corporation (GMC). They collect from designated pick-up points where residents deposit their garbage. However, due to irregular collection, these areas often overflow and waste is seen accumulating outside them.

Goal: Developing well-established, community-driven mechanisms for a 'waste-free city.'

Objectives:

1. To change attitudes and increase awareness of the 'waste-free city' concept. Most residents do not seem to be aware of or partake in reducing, reusing or recycling methods that can apply in their own households. All responsibility and burden is placed on local authorities. Therefore, it is essential to have consultation programs to affect attitudes at every level, such as with policy makers, officials, schools, waste operators (GMC waste management division laborers), community members and other stakeholders.

2. To educate households in Galle City on the importance of reducing, reusing, recovery and recycling in waste management.

3. To improve partnerships for a waste-free city. A stakeholder consultation program will help to establish and fortify partnerships for waste management programs using different approaches.

4. To establish responsible teams for ongoing waste management programs.

[7]Based on "Management of Solid Waste in Sri Lanka: A Comparative Appraisal of the Economics of Composting. Authors: T Lalithasiri and W Neluka Gunasekara

3.3 Activities, Outputs, Challenges & Results

HELP-O Table 1

Objectives	Main Activities	Quantity/Numbers	Challenges/Future Activities/ Outputs
1. Consulting sessions and awareness programs	**Target Groups** Community, schools, parents, homes, Goal Municipal Committee staff, sanitation workers, rural officers	16 times	Low support from officers Diversity of culture, religion of the residents of China Garden District Students who participated in the school awareness campaign also spread the SWMP message to their homes.
2. Data collection on segregation in China Garden Districts	Baseline and endline surveys	**Baseline data for 100 houses** Data for 50 houses, randomly selected	See HELP-O Table 2
3. Assign 'Green Leaders'	**Assign Green Leaders for one community and three schools** Green Leaders took part in awareness and tree planting programs.	1. Assigned Green Leaders on 2/4/2017, 43 participated, and 10 community leaders were assigned. 2. Assigned Green Leaders at Southland College, 6/30/2017, 36 participated, and 15 Green Leaders were assigned. 3. Assigned Green Leaders at Vidyaloka College on 8/3/2017, 25 Green Leaders were assigned. 4. Assigned Green Leaders at Al-Meeran Muslim College, 1/17/2018, 36 participated, and 15 Green Leaders were assigned.	
4. Collection of Glass Waste	Galle Municipal Council (CMC), Random Global Trading (Pvt.) Ltd and HELP-O signs a MOU in connection with the collection of glass waste. GMC collects glass waste from the Muncipal Council Area and sells in bulk to Random Global Trading Ltd. Random Global Trading purchases glass waste for 2.5 SLRs per 1 kilogram and transports the glass to production point. HELP-O acts as information collector and illustrates progress as well as coordinates with other parties.	First Time - 2017/05/18 12.8 tons Second Time - 1 2017/07/13 15.3 tons Third Time - 2017/08/10 12.2 tons Fourth Time --- 15.0 tons	
5. Cleaning Program	1. Cleaning program at Karapitiya Hospital 2. Galle Fort beach cleaning and campaign program	1. Cleaning program at Karapitiya Hospital -1/16/2017 2. Galle Fort beach cleaning and campaign program 1/29/2017	Following the campaigns, many city residents acknowledged the project and expressed their enthusiasum and cooperation.
6. Tree Planting Program	Muslim school, Womens' Coop, Galle Municipal Council and some other institutions took part in a treeplanting program.	January 30th, 2018 15 people planted 40 trees	
7. Number of Private Companies that Cooperate with Recycling	Through a stakeholders meeting and HELP-O's network, HELP-O aquired five private companies and institutions to cooperate with this project.	1. Random Global Pvt Ltd. 2. Jetwin Lights House Hotel 3. Hemas Southern Hospital 4. Galle Cooperative Hospital 5. Galle City New Century Lions Club	1. Random Global Pvt Ltd - glass collection 2. Jetwin Lights House Hotel - waste collection & bag printing 3. Hemas Southern Hospital - leaflet printing 4. Galle Cooperative Hospital - contribution to waste collection hand cart 5. Galle City New Century Lions Club - beach cleaning and tree planting programs
Overall			A local government agency, Mount Lavonia Municipal Council requested advice from HELP-O in order to fulfill their waste management project.

3.4 Evaluation

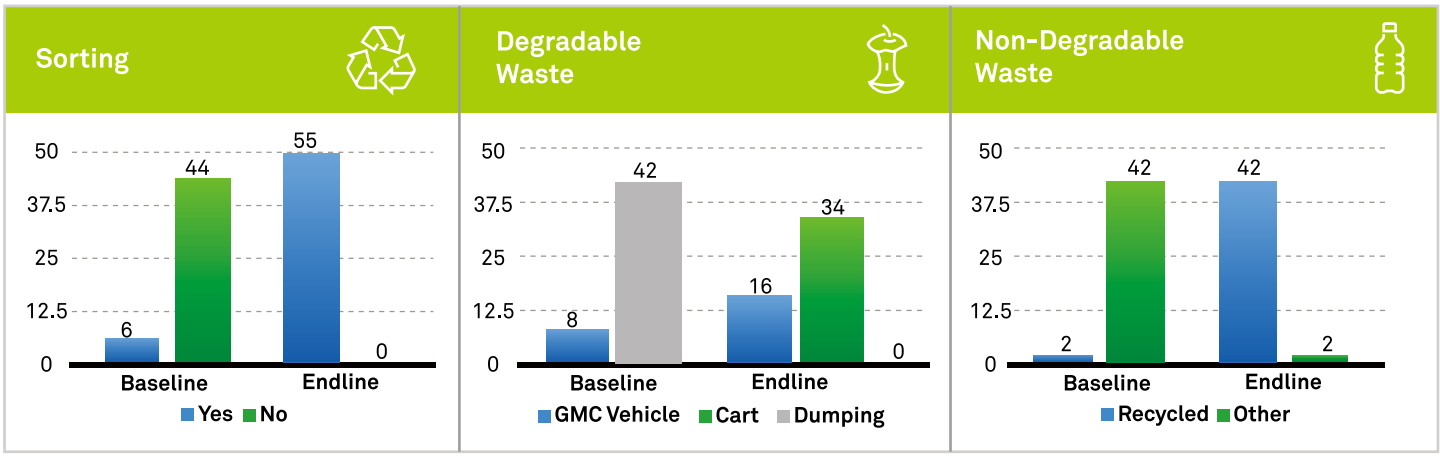
Some programs within the project are targeted at the entire region covered by the Galle Municipal Council. HELP-O designated the China Garden Ward as their pilot area and concentrated heavily on this particular area.

The following table (HELP-O Table 2) shows a summary and comparison of baseline and endline segregation.





Community Based Solid Waste Management Project in Galle - Survey Results (HELP-O Table 2)





3.5 Future Activities

HELP-O is planning to undertake a number of solid waste management projects in the future. These projects will be realized through cooperation and consultation with other stakeholders, as they have done in the past.

The goals of these projects can be summarized as follows:

- Introduce the project concept to other villages
- Strengthen the vendors' network
- Construct a factory for the production of oil from coconut powder
- Collect oil waste from the community (homes and hotels) and make bio-oil
- Produce diesel, petrol and kerosene oil from polythene and plastics
- Establish a factory for recycling glass in Sri Lanka





CITYNET Yokohama Project Office wishes to acknowledge the contribution of Dr. Premakumara Jagath Dickella Gamaralalage, Programme Manager, Sustainable Consumption and Production, Institute for Global Environmental Strategies (IGES) for the success and outputs of the 'Promoting Integrated Community-Driven Waste-Free Green City' project in Galle.



CITYNET is an expanding network connecting local governments and urban stakeholders across the Asia-Pacific region. CITYNET promotes capacity building and city-to-city (c2c) cooperation for people-friendly cities.



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