

Table B-11: Classification, Packaging, Treatment and Disposal of Healthcare Wastes

Class	Colour Code	HCW Type	Packaging	Treatment/disposal
1	Black	Non-risk HCW	200 micron bags	With municipal waste
		Non-contaminated plastics/glassware	Adequate container	Disinfection or sterilisation and recycling
2	Yellow	Infectious and highly infectious HCW	300 micron bags	Major hospitals: disinfection, incineration, autoclaving and shredding Minor medical institutions: incineration or safe burial
		Pathological HCW	300 micron bags	Incineration or safe burial
		Anatomical HCW	300 micron bags	Incineration or safe burial
		Small quantities of pharmaceutical and chemical HCW	300 micron bags	Incineration, encapsulation or rendering inert.
3	Yellow	Sharps	Safety boxes	Dispose as for infectious HCW
4	Yellow	Radioactive HCW	Specific containers	Storage and dispose as for class 1 or 2
5	Yellow	Large quantities of pharmaceutical and chemical HCW	Specific containers	Return to supplier or encapsulation or rendering inert
		HCW with high content of heavy metals	Specific containers	Return to supplier or encapsulation
		Effluents	---	Specific treatment

Notes: Refer to National Guidelines for specific definitions

B.9.3 Actual Healthcare Waste Management

Healthcare waste includes significant quantities of hazardous materials, including waste sharps, infectious wastes and some contaminated plastic wastes, as described above. Although the National Healthcare Waste policy sets out requirements for packaging, treating and disposing of different categories of healthcare wastes, few medical institutions currently have appropriate systems for handling and treating these wastes to render them harmless, with lack of funding being a critical issue preventing them from setting up such systems. Often, such wastes are disposed of by open burning and/or pit burial within the premises of the medical institution. Alternatively, they may be put out for collection with normal garbage. In many cases, poor waste segregation often results in some sharps and clinical waste being present in normal garbage, even if the medical institution disposes of most such wastes on-site.

These practices mean that most local authorities have problems collecting and adequately disposing of healthcare waste generated by public and private hospitals, clinics and dispensaries operating within the area under their control.

For these reasons, the following recommendations are made to assist local authorities to effectively manage healthcare wastes generated within their boundaries:

- Ensure medical institutions are aware of their responsibilities under the National Healthcare Waste Policy⁸.
- Encourage medical institutions to segregate their healthcare wastes at source and to seal as many wastes as possible in disposable bags or other suitable enclosed containers in accordance with the recommendations made in the previous table. This will prevent or minimise contamination of the hospital and wider environment.
- Encourage medical institutions to store any healthcare wastes to be collected by the LA or private contractor in appropriate containers/areas. Such areas should be accessible by permitted personnel only and their surrounds should be kept clean. These wastes should be collected regularly, ideally daily and not less than every two-three days.
- When off-site transportation of hazardous healthcare wastes is required, ensure that the hospital informs you of the contents of the waste being transported. Ideally, a hospital staff member should accompany the vehicle carrying such wastes to the disposal site, to ensure that such wastes are disposed of properly, with a record being made of this.
- Provide LA collection staff with training on the hazards associated with healthcare wastes and the means of protecting not only themselves but also the wider community. Such staff should be provided with preventative health services such as regular medical inspections as well as protective equipment such as uniforms, boots, gloves, and breathing mask, as appropriate. Some LAs provide tetanus and TAB immunisations for relevant staff, while others prefer to treat staff in the event of a cut or injury.
- When hazardous healthcare waste is to be disposed to a LA disposal site, an acceptable way of doing this is to place it a specially designated and controlled area of the landfill site where access is restricted. Generally, this involves constructing a special pit (see following figure) with a watertight concrete shell (A, 150mm thick), at least 2m deep and 2m wide, drainage, and a reinforced concrete cover (B, 100mm thick) or similar over the pit. Hazardous healthcare waste should be placed within the pit in sealed bags (C) and covered with a soil layer of at least 100mm thickness at the end of each day's filling (E). Periodically, a lime layer should be placed over the deposited waste (D) followed by another layer of soil (E).

⁸ Local Authorities should obtain a copy of the full draft National Policy on Healthcare Waste Management from the Ministry of Health and Indigenous Medicine.

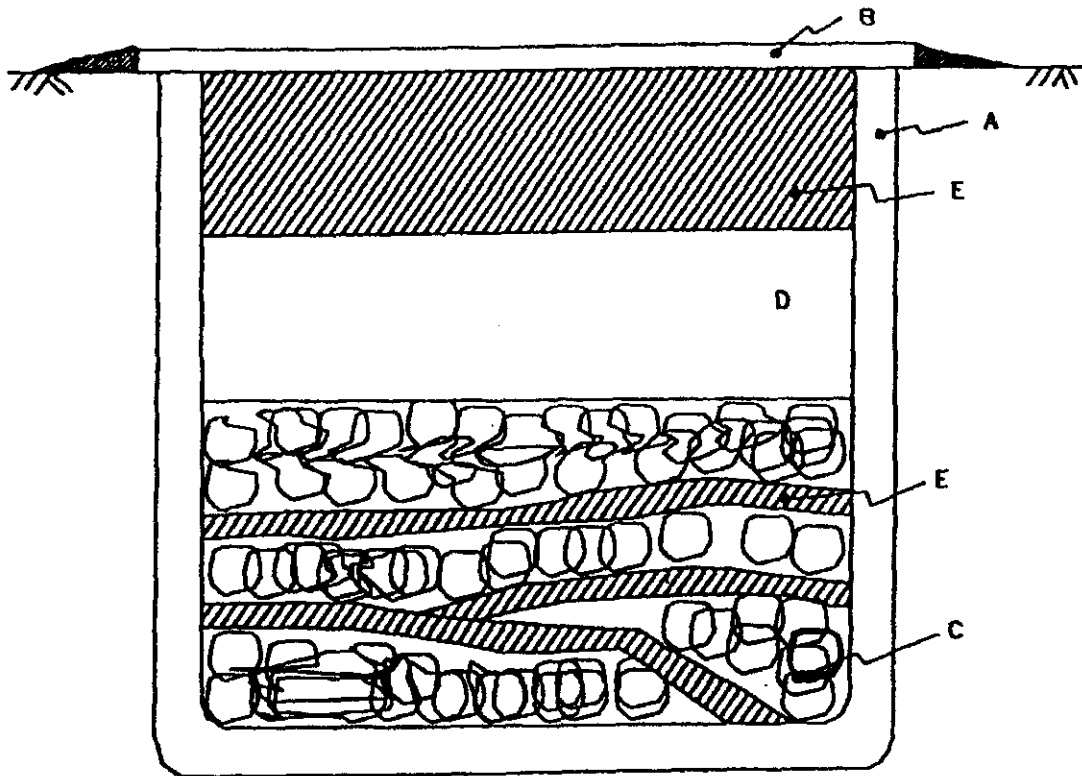


Figure B-2: Hazardous Healthcare Waste Disposal Pit (from "Manual on Municipal Solid Waste Management, first edition, Ministry of Urban Government, Government of India, May 2000)

B.10 Reducing SWM Costs

B.10.1 SWM Operation and Maintenance (O&M) Costs

This Study found that SWM budget costs currently make up a high proportion of LA's annual budget in all seven study towns (average = 22%, range = 13-35%), mainly due to many LA staff working in SWM (average = 29%; range = 22-37%). Hence, it is very important to find out how this money is spent and how costs might be reduced.

SWM operation and maintenance (O&M) costs may be divided up into a number of categories, as shown below.

Table B-12: SWM O&M Costs Breakdown

Category	Typical Items
Technical, supervision and administration	<ul style="list-style-type: none"> • Managerial, technical, supervisor and administrative staff salaries and allowances (taking into account the percentage of working time spent on SWM works). • Office equipment/expenses. • Miscellaneous.
Discharge/storage	<ul style="list-style-type: none"> • Regular replacement of half barrel litter bins. • Maintenance/repair of concrete public garbage bins.
Collection: <ul style="list-style-type: none"> • Handcarts • Hand tractors • Tractors/trailers • Lorries • Compactor Trucks 	<ul style="list-style-type: none"> • Driver and labourer salaries. • Staff equipment (gloves, aprons, boots, etc.). • Diesel/oil. • Vehicle repair/maintenance. • Trailer repair/maintenance (including periodic frame rebuilding). • Periodic handcart frame rebuilding (some LAs only). • Tyres. • Insurance/Licence. • Depreciation.
Transfer Station	<ul style="list-style-type: none"> • All staff salaries – supervisor, vehicle drivers, labourers. • Staff equipment. • Tractor wheel loader costs. • Transfer vehicle costs. • Chemicals for odour/pest control. • Land rental. • Security.
Processing/Treatment (e.g. compost facility)	<ul style="list-style-type: none"> • All staff salaries – supervisors, drivers, labourers • Staff equipment (gloves, boots, wheelbarrows, etc.). • Vehicle costs (e.g. loader). • Civil works maintenance. • Equipment/machinery maintenance. • Equipment/machinery insurance. • Administration. • Leachate removal/treatment. • Land rental. • Electricity. • Water. • Chemicals/additives. • Bagging. • Depreciation. • Other.

Final disposal	<ul style="list-style-type: none"> • Staff salaries (supervisor and labourers). • Staff equipment (gumboots, gloves, etc.). • Vehicle costs (e.g. tractor wheel loader, bulldozer). • Civil works maintenance. • Equipment/machinery maintenance. • Equipment/machinery insurance. • Cover soil. • Chemicals for odour/pest control. • Access roading/site works. • Leachate removal/treatment. • Landfill gas vents. • Land rental. • Security. • Depreciation.
Other labourers (street sweeping, drain, market, and public places cleaning, etc.)	<ul style="list-style-type: none"> • Staff salaries. • Staff equipment. • Associated handcart costs.

Annual costs should be determined for each category and divided by an appropriate tonnage of waste in each case to get the category unit cost. These annual and unit costs are very useful for planning purposes, particularly in looking at ways of reducing SWM costs.

Currently, it is very difficult to calculate these SWM unit costs for most local authorities for two reasons:

- Most if not all LAs in Sri Lanka do not record SWM expenditure in this way. Instead, the current LA accounting system may, at best, allow the following SWM costs to be determined:
 - Total salaries.
 - Office equipment/expenses.
 - Vehicles.
 - Disposal.
 - Other.
- Many local authorities do not keep accurate records of the amounts of garbage they are collecting and disposing. SWM tonnages are either not known or must be estimated from approximate vehicle trips data.

Hence, it may take some effort to obtain SWM costs according to the categories listed above.

However, consider the following:

- Currently, for most LAs the processing/treatment cost is zero (i.e. there are no centralised composting or recycling facilities).
- Similarly, most LAs do not have transfer stations. Hence, this cost is zero.

- Most LAs are spending too little money on final disposal. Spending on this item needs to be increased as a LA progresses from open dumping → controlled tipping → sanitary landfilling.
- Typically, SWM collection/transportation makes up at least 60% of total SWM costs.

Hence, it is very useful to focus on calculating the SWM collection/transportation costs for different vehicles as the first step in SWM accounting, because the greatest cost savings can generally be achieved in this category, often for relatively little effort.

B.10.2 SWM Collection and Transportation Costs

The following table shows how SWM O&M collection/transportation costs can be calculated for a tractor/trailer unit, using typical Sri Lankan data.

Table B-13: Calculating Tractor/Trailer O&M Collection/Transportation Costs

Item	Unit	Unit Rate	Quantity	Cost
Driver	Rs/mth	7,189	1 x 12	86,264
Labourers	Rs/mth	6,860	3 x 12	246,960
Staff equipment	Rs/yr	2,500	1	2,500
Diesel	Rs/mth	4,500	12	54,000
Oil	Rs/mth	300	12	3,600
Tractor repair/maintenance	Rs/mth	2,000	12	24,000
Tyres	Rs/yr	9,333	1	9,333
Trailer repair/maintenance	Rs/yr	20,000	1	20,000
Insurance	Rs/yr	7,800	1	7,800
Licence	Rs/yr	150	1	150
Depreciation	Rs/yr	73,333	1	73,333
Total				527,940
Average trips	Trips/d		2.1	
Average Tonnage	Tonnes/yr		895	
Unit cost	Rs/T			590

Notes:

1. Average trips per day = Total number of tractor trips yr/number of tractors
2. Average tonnage = Average trips/day x 365days/yr x No of tonnes/trip. No of tonnes per trip should ideally be measured by weighbridge. Otherwise, it may be calculated from the average tractor filled volume x garbage bulk density (typically 300-400kg/m³ in Sri Lanka).

Average, minimum and maximum SWM collection/transportation unit costs for a number of different garbage collection vehicles for the seven study towns in Sri Lanka are shown below.

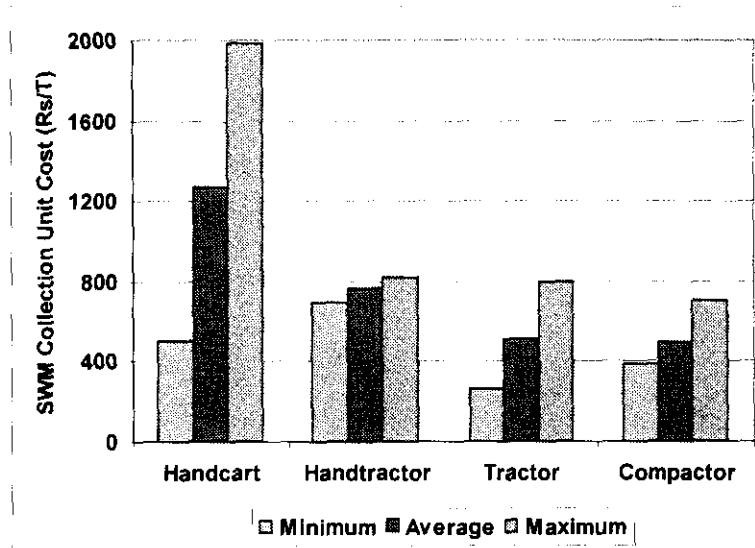


Figure B-3: SWM Collection/Transportation Unit Costs in Seven Study Towns (mid-2002)

Commenting on this data:

- Handcart collection is very expensive, this mainly being due to high labour costs (2-3 workers per handcart) and the low tonnage carried per load (around 120kg). However, handcart collection is useful and/or necessary in some locations – narrow roads, congested areas, markets, etc. Hence, it is vital to restrict handcart usage to essential places so as to reduce overall costs.
- Hand tractor collection is moderately expensive. Hand tractors have a number of other disadvantages:
 - They must be unloaded manually, which takes at least 20min per load.
 - They are poor at reversing, especially up slopes and under soft, wet conditions (e.g. at disposal sites).
 - They are very slow and hold up traffic.

Hence, their usage should be restricted to narrow roads in residential areas which can not be accessed by other motorised vehicles.

- Tractor/trailers are the most common and suitable type of SWM collection vehicle currently used in Sri Lanka. However, they can not be used in some narrow, congested areas.
- Compactor trucks (4m³) have similar unit costs to tractors/trailers. JICA also found that a 4m³ compactor truck can carry about the same amount (2.4T/load) as a 6.3m³ tractor trailer⁹, this primarily being due to the high bulk density of Sri Lankan waste, meaning compactors can only achieve a relatively small increase in bulk density – from 390kg/m³ (trailer density)

⁹ JICA weighbridge survey, August 2002.

to 608kg/m³ (4m³ compactor density). Larger compactors (8-12m³) such as those commonly used in Colombo can obviously carry more waste than a tractor/trailer unit. Compactors are more difficult to maintain than tractors and require good management to keep their O&M costs down. They are also unsuitable for collecting mixed waste for subsequent recycling/composting. However, they are easier to manoeuvre than tractors and hence are appropriate for use in narrow/congested areas. In addition, they are much easier to load than trailers, have reduced travel times and scatter much less waste during transportation. As Sri Lanka becomes more urbanised and its waste composition becomes “lighter”, compactors will be more appropriate for use.

B.10.3 Keeping Costs Down

The LA should compare its SWM O&M collection/transportation costs for the different types of vehicles it operates with the unit costs shown above. “Good performance” should be no greater than the average values shown and ideally less than this, while unit costs as low as 250Rs/T may be possible for four wheel tractors and compactors. It should then look at ways of reducing high costs. Some important questions to consider include:

- Where is handcart garbage collection necessary and where can it be eliminated?
- Where is hand tractor collection necessary and where can it be eliminated? Ideally, handtractor usage should gradually be phased out from non-essential areas.
- How can waste scattering and the garbage loading time be reduced? – the new waste discharge rule and new collection system!
- How many trips should each vehicle be able to make each day? How many vehicles actually achieve this?
- How many labourers should be assigned to each collection vehicle? Introduction of the waste discharge rule and new collection system should make it possible to reduce the number of labourers per vehicle by at least one.
- How often should garbage be collected from different areas? Where is daily collection necessary? Where can longer collection frequencies be used?
- Are the trailers being used at least 6m³ in size? If not, can their capacity be increased?
- How much of the trailer capacity is being filled with garbage per trip? If less than 80%, is this due to poor design? – if so, can its filling capacity be increased by modifying it at a reasonable cost?; if not, can the collection route or frequency be modified to ensure the trailer is more than 80% full when it travels to the disposal site.
- Should labourer working hours be modified to avoid peak traffic times?

- How can stationary trailers be used to reduce collection/transportation costs?
- How much working time is lost due to labourer absenteeism and/or driver absenteeism?
Would privatisation save the LA money?
- What proportion of labourers salaries does the LA pay out as overtime? Is this cost effective?
Could overtime payments be reduced?

Answers to some of the above questions may result in the number of labourers being reduced. Careful thought should be given to this, as many garbage collection labourers have very low status in Sri Lankan society. Often, their parents and even grandparents may have done the same job. Although they may complain about the working conditions and pay, the job of labourer provides them with some security in the form of a stable job and basic income. Thus, reducing the number of labourers may save the LA money but could cause significant social upheaval amongst labourers and their families. Out of a job, they would have to seek alternative employment, which typically is of a temporary, short term nature (e.g. gardening) and thus less secure.

B.11 Increasing Public Participation

B.11.1 Introduction

Increasing public participation involves establishing and maintaining an effective public-LA communication system. This involves the LA deciding clearly and reaching consensus on what the LA should do and what the public should do. It is a two way process – the public must do what it is asked to do (improved public participation) and the LA must do what it says it is going to do (improved LA performance), particularly for collecting garbage on time and according to schedule. It should also listen to the public's ideas and requests, follow up and resolve public complaints, provide them with reminders and feedback on progress/ problems. By doing such things, the LA will gain the public's trust, which is vital to increasing and maintaining public cooperation. The LA should also realise that its ultimate goal is a CLEAN city – this is what the public want and this is more important than setting targets based on the number of trips or tonnes of garbage collected per day.

In doing this, the LA must be practical as well and consider the following:

- Human resources: are they available? Committed? Enthusiastic?
- Equipment required: does the LA have it? If not, can it borrow or buy them?
- Costs: Can the LA afford this? If not, can it get sponsorship or donor support?
- Effort: how much effort is required – small, medium, large?
- Time: short or long?, is the starting date realistic?, is there a timetable?

B.11.2 Get the Support of Council Members

Many garbage collection supervisors and labourers have complained that the implementation of new SWM ideas and practices is hindered by elected Council members. For example, many Councils have a policy that the public should not discharge large quantities of garden and/or building waste for collection. Instead, they should contact the Council to arrange special collection of such wastes for a fee. However, many members of the public dislike this system, complaining that they already pay taxes, so why should they have to pay more for collection of such wastes. Often, they complain about this to their Council members, who will then order the LA supervisors and labourers to collect the offending wastes. Such behaviour undermines the authority of the LA and also increases the likelihood of any new ideas and practices failing.

Hence, it is vital that Council members should be kept informed of proposed changes to SWM practices and asked for their cooperation as early as possible in the planning process, particularly when such changes are going to involve more public participation than the current system. Their comments and ideas should be listened to, while reasons for introduction of the new system and

how it will work should be explained carefully to Council members. In particular, Council members should be informed that complaints are likely to increase during introduction of the new system. Rather than giving in to peoples' demands, Council members should make decisions consistent with the changes being introduced, educating the public about why such changes are being made. Otherwise, such changes are likely to fail.

As part of this process, it may be worthwhile holding regular orientation on SWM matters for Council members, covering current status, changes and issues. This is particularly important after local body elections, and it may help to generate and maintain interest in SWM amongst them.

B.11.3 Inform and Educate the Public

The public should be informed about any proposed changes to SWM practices relatively early in the planning stages, so that their ideas and comments can be taken into account in finalising the programme. This is particularly important when the LA is going to ask for their increased participation, which many people may be opposed to. Hence, it is a good idea to explain to people about the problems with the current system, what the new system involves and its benefits to the people and city – educate them!

The information and education process can be done in a large number of ways, including:

- Media: leaflets, posters, murals, noticeboards, books, stories, games, videos, newspapers, radio, television.
- Events: public meetings, community discussion groups, competitions, drama/street theatre/music, marches, theme days, cleanup days (e.g. shramadana).
- Other: printed shopping bags or tee-shirts with environmental messages, SWM cartoon character, slogan or logo.
- No publicity!: Simply rely on people's curiosity to generate interest. This is appropriate in some cases, where it is reasonably obvious what the change is for (e.g. bell collection, new enclosed public garbage bins).

Public education and awareness raising is discussed in more detail in the following section.

It is often useful to inform and educate people through existing groups, including:

- Community: Street committees, community based organisations¹⁰, welfare societies, womens' societies, Funeral Assistants' societies, temple/church societies, Sunday schools (children's groups and leaders' committees), schools (children and parents' committees).
- Business: Hotel Associations, City Watch committees, Traders Associations, Chamber of Commerce.

- Other: voluntary organisations (e.g. Lions) and non-governmental organisations (NGOs).

Many such organisations are keen to support poverty alleviation, sanitation improvement, city beautification or waste minimisation initiatives, with some of them actively working in these areas. Voluntary organisations may assist with sponsorship for publicity or equipment (e.g. compost barrels), while NGOs may already have established programmes and networks within the community, which the LA may be able to work through.

Utilise a wide range of human resources:

- LA staff (labourers, supervisors, CDOs, DEOs, PHIs, with support from the Mayor, Commissioner, Council members, etc.)
- Other government officers (midwives, GS Officers, Samurdhi mobilisers).
- Community volunteers (e.g. retired people).
- Respected community leaders (e.g. priests, monks).

Remember that providing information and education is MOST important during the early stages of introducing changes to the SWM system. If you don't do this, people will not know why they are being asked to change nor what they are supposed to do.

B.11.4 Establish Effective Communication Channels

It is important to establish effective communication channels between the public and LA. Such channels should include the following:

- Direct contact with Supervisor: The community in each neighbourhood should be informed or the name of their SWM Supervisor and how to contact him/her.
- CDOs: house to house visits.
- DEOs: Community meetings.
- LA Information/Complaint Line: The LA should inform the public of how to submit both written and verbal information requests and complaints. The minimum requirement here is for an address and telephone number and who to direct such requests/complaints to.
- Means of LA making regular contact with community members. This may be done through the media and/or events, particularly involving existing community and business groups (refer above section). Alternatively, selected community members and representatives of different organisations may be invited to participate in relevant Council meetings (e.g. Health or Environment Committee meetings).

¹⁰ Often formed by non-governmental organisation.

When working with existing community/business groups, it may be beneficial to ask them to nominate one-two people who will be responsible for liaising with the LA on SWM matters.

In other cases, it may be beneficial to select voluntary health animators at the street or neighbourhood level. These health animators are responsible for liaising with the LA on SWM issues within their neighbourhood. Their name and contact details should be communicated to all people living in the neighbourhood. LA Area Supervisors should meet with the Health Animators on a regular basis. Ideally, health animators should not be politically aligned.

In both cases, the LA will address any communications to the group/neighbourhood through these nominated people/health animators. It should also be made clear to the nominated/selected people that their main concern is SWM issues. Other health issues (e.g. water, stormwater drainage, sewage, etc.) will be addressed separately.

Some examples of various public-LA SWM communication channels in different towns are given below.

Table B-14: Existing and New Public-LA SWM Communication Channels

Method	Description	Comments
Community meetings, Chilaw	Regular meetings in different parts of the town to inform residents of health/SWM matters and to listen/respond to their concerns.	Such meetings generally begin with a short, visual (powerpoint) presentation by the PHI or invited guest, addressing particular health issue(s) of concern.
Street committee representatives, Negombo	Following meetings with existing societies (e.g. Thaladuwa Welfare Society) and in different areas (on a street basis) to discuss introduction of a new bell collection system, participants were invited to form street committees (if no existing group) and nominate one or more people to represent them in dealing with the LA on SWM issues.	In both cases, community meetings were held first, involving a short presentation and discussions with some Council members, Municipal Commissioner and Mayor being present. The group/community was then asked to appoint one or more person to represent their community on SWM issues.
Health Animator, Chilaw	Selection of Health Animators at the neighbourhood level, responsible for liaising with the LA on SWM issues.	
City Watch committee, Matale	Regular monthly meetings on city issues between the Mayor, Council members, LA staff and business/educated people from the town.	Useful LA-public forum, focusing on the commercial sector of the town.

B.11.5 Follow Up and Resolve Complaints

It is vital that the LA follow up and resolve complaints received from members of the public. Often, the PHI or Supervisor of foreman in the particular area in question will be given this task.

These complaints may come in a variety of forms:

- Complaints about the new system. These may take two forms. Some people may oppose the changes - try to convince them of its benefits and encourage them to cooperate. Other people

may be happy with the changes, but complain about specific problems. For example, with introducing a bell collection system in Negombo, the vast majority of the public were very happy with the idea, but some people complained about the music not being loud enough, or the tractor not coming on time, or the bell being broken sometimes.

- Complaints about general problems (e.g. LA tractor sometimes does not come or is late). Many of these problems have common solutions (e.g. improving the tractor maintenance system).
- Complaints about specific, local problems (e.g. “outsiders throwing garbage from their vehicles onto vacant land opposite my house”). Many of these problems will have unique solutions specific to the location (e.g. find out who is dumping such waste and fine them).

In each case, the Supervisor/PHI should listen to the person making the complaint; make a record of it; ask them to write to the LA (if appropriate); explain to them reasons for the problem (if known); inform them of what they will do to solve the problem and by when (date); provide them with relevant contact details; investigate the problem, as necessary; inform relevant LA staff about the problem and required action; and inform the person who made the complaint after any action is taken and the outcome.

For this process to be effective, the PHI or Supervisor or foreman must know their area and the rules. For example:

- If the roads/drains are not clean, do the roads/drains come under the authority of the LA, Provincial Council or RDA?
- If there are a pile of tree cuttings under power/telephone lines, who cut them and who should remove them? – LA, CEB, Telecom, private contractor?

Don't commit the LA to something it is not responsible for. If you don't know who is responsible, say you will find out and inform them later.

If there don't seem to be any rules, procedures or standard practices in place (e.g. school waste collection policy), check whether this is true first, by consulting with experienced/senior LA staff, checking national and local legislation and asking other Councils and national authorities (e.g. CEA). If true, new rules, procedures and standard practices may need to be established and informed to relevant parties. Remember – SWM is dynamic!

B.11.6 Provide Reminders and Feedback to the Public

Often, when new SWM systems or practices are introduced, there is a relatively quick and good response from the public in the early stages, particularly if the public perceive the changes to be of benefit to them. However, some people are more resistant to changing their behaviour while others may forget or slip back into old habits after some time. Hence, it is good to offer people

periodic information updates, which remind them of and reinforce the messages contained in the initial information. Such reminders also offer an opportunity for providing feedback to the public on the success and problems of the new system and what efforts the Council is making to improve the new system. Again, this can be done using a variety of methods as described previously.

B.11.7 Typical Problems for Discussion

Typical daily problems related to dealing with the public are also included in Appendix 2. It may be a useful exercise for PHIs and supervisors to discuss solutions to these problems based on their knowledge and experience and the information presented in the preceding sections.

B.12 Effective Community Meetings and Presentations

PHIs and supervisors may sometimes have to attend community meetings in varying capacities – sometimes as the chairman, sometimes to make a speech or give a presentation, sometimes to listen and make notes. Hence, it is very important for them to develop the relevant skills to do these things. This section provides a brief summary of what this involves.

B.12.1 Controlling Meetings

Controlling meetings is a difficult but very important task. Key points are:

- Inform people in advance – why?, when?, where? and for how long? By doing this, people will know the purpose of the meeting, its date, time and location and by when it should be finished.
- Start and finish on time.
- Have a clear purpose.
- Follow standard meeting procedure.
- Limit and keep to the agenda.
- Limit attendance.
- Control and summarise the discussion.
- Press for decision and commitment.
- Minute attendance and action items, including who is responsible for each item?, what they have to do?, by when?, and how other people will know it is done.
- Distribute meeting minutes to attendees and other relevant people.

B.12.2 Preparing a Speech or Presentation

- Research your audience.
- Prepare an outline.
- Gather material – information, visual aids, photos, etc.
- Prepare the speech/presentation (use small cards). If you are a novice, it may pay to write it out in full; if you are experienced, key points may be enough.
- Rehearse your speech. Is the content and length okay? Edit as necessary.
- Make a list of what you need to take: copy of speech, publicity leaflets, paper and pens for making an attendance register and minutes, etc.

B.12.3 Using Electronic Media

If you are going to be using electronic media, such as an overhead projector (OHP) or multi-media projector:

- Familiarise yourself with the equipment.

- Check the venue for availability and location of power supply. Is it reliable and safe?
- Make sure a low table is available for placing the OHP/projector on.
- Does the room have a light coloured wall in an appropriate place to use as a screen, or do you need to bring one?
- Can the room be darkened, or do you need to bring a curtain or sheet for darkening the viewing area?
- Make a list of what you need to take: e.g. OHP/projector, computer, screen, OHPs, extension cord, adaptor, handouts, etc.
- Have a contingency plan in the case of a power cut or equipment failure.

B.12.4 Doing the Speech of Presentation

- Control your nerves.
- Delivery – voice, speed, pauses, eye contact, gestures, body language, humour.
- Check your audience – are they engaged?, looking around?, falling asleep?
- Manage questions.
- Manage hostility.
- Keep to time.

B.12.5 Sample Topics

A wide range of sample topics for speeches or presentations related to SWM are described for your references. It may be a useful exercise for PHIs and supervisors to each pick one topic, spend a short time preparing a 2min speech and then deliver it to their colleagues, who will evaluate their performance. A similar exercise can be done for preparing and giving presentations.

SAMPLE TOPICS FOR PREPARATION OF SPEECHES OR PRESENTATIONS

- To encourage people to use durable shopping bags made of natural materials rather than polythene bags.
- To encourage parents to package their children's lunches in permanent lunchboxes rather than wrapping them in polythene.
- To encourage people to reuse plastic and glass bottles, paper/cardboard, etc. as much as possible.
- To encourage people to compost their organic waste at home.
- To encourage people to support the traditional recycling system.
- To encourage people not to throw their garbage loosely at the roadside or into drains.
- To encourage people to discharge their garbage in some type of container for collection.

- To explain to people why they should not litter.
- To encourage people to keep their neighbourhoods clean.
- To explain to people why burning plastics and/or tyres is bad.
- To explain to people why it is bad to throw garbage into waterways (streams, river, sea).
- To explain to people why the LA needs increased cooperation from them to improve SWM.
- To explain to people what the LA is doing to provide a more reliable garbage collection service.
- To explain what people should do if they want to complaint to the LA about a SWM issue.
- To explain to people how they are going to try and eliminate garbage heaps in their area.
- To explain to people how they are going to try and stop outsiders dumping their garbage from vehicles in their area.
- To explain to people the LA's garden and building waste collection policy.
- To encourage people to do Shramadana to clean the drains in their area.
- To explain to market traders why it is important to maintain markets in sanitary conditions.
- To explain to hospital staff (nurses, cleaners, etc.) why they should keep hazardous waste (sharps, clinical waste, etc.) out of the normal garbage collected by the LA.

B.13 Public Education and Awareness Raising

B.13.1 Introduction

Public education is an important new task for PHIs and supervisors. Public education in this context involves raising peoples' awareness and teaching them about certain SWM issues so as to encourage them to change their attitudes and behaviour. It requires good communication, understanding how people learn and involves planning, implementing and evaluating an education event or programme. All of these aspects are discussed in this section.

B.13.2 Communication

Communication, at its simplest, involves the transfer and understanding of meaning between a sender and receiver(s). Everything you do involves communication – hence, effective communication is vital to your work.

Common communication methods are listed below, together with their advantages and disadvantages.

Table B-15: Common Communication Methods

Method	Advantages	Disadvantages
Oral	<ul style="list-style-type: none"> • Quick transmission. • Quick feedback (often enabling any uncertainty to be detected and clarified). 	<ul style="list-style-type: none"> • May not be well thought out, logical and clear. • Greater potential for distortion, especially if passed through many people.
Written	<ul style="list-style-type: none"> • Permanent record (tangible + verifiable). • Often well thought out, logical and clear. 	<ul style="list-style-type: none"> • Takes more time. • Lack of feedback.
Non-verbal	Conveys meaning.	Can be misinterpreted.
Electronic media	<ul style="list-style-type: none"> • Fast • Expensive. 	<ul style="list-style-type: none"> • Security problems.

Note: Non-verbal content refers to facial expression, gesture, body position, etc.

Good communication is characterised by:

- **Commitment:** both the sender and receiver must be willing to communicate.
- **Pre-planning:** get organised first and think about what you are going to say. Write it down if necessary.
- **Regularity.**
- **Relevant:** keep to the topic.
- **Two-way:** communicate what you need to but allow the receiver the chance to respond.
- **Timely:** don't wait too long to communicate things – otherwise, it may too late or not relevant.
- **Clear:** keep it short and simple.

- Measured - the right amount: too many words or ideas may confuse people; tailor what you are going to communicate according to your audience.
- Method matches the message: a telephone call is fine for normal conversation, but a formal letter may be necessary to make an invitation or discipline someone.

Common problems include:

- Distance: too large a physical gap. This may as simple as the other person being too far away to hear properly (for verbal message) or the receiver may be removed from the reality of the sender. For example, the LA Sub-office may ring the LA main office saying “one of the tractors has broken down and there are piles of garbage everywhere and many people are complaining”. The receiver doesn’t know if the sender is giving an accurate or exaggerated picture of the problem. He has to either trust them or ask questions of clarification or go and see for themselves.
- Too few communication skills (e.g. reading, writing, speaking, listening and reasoning).
- Serial errors: distortions or omissions in the message passed on or received. Even though we may use the same words, other people may understand them differently, depending age, education and culture.
- Filtering: people only see or hear what they want, depending on their needs, motivations, experience, background and other personal characteristics.
- Emotions: how the receiver feels when the message is received influences how they interpret it. Similarly, what the sender may say may be affected by their emotions.
- Status: this affects upward communication. People may communicate what they think the boss wants to hear rather than the whole picture (manipulation of information).
- Clarity: something that may be obvious to the sender due to the knowledge/information they have on the topic may not be sent clearly or completely to others.
- Trust: lack of trust between parties can lead to people only communicating certain things and not the whole story.

Simple techniques for overcoming such problems include:

- Use feedback. Ask open questions (e.g. “so what do you mean by that?”) or get receiver to restate the message sent in own words.
- Simplify the language used. Only use technical jargon where appropriate.
- Listen actively. When someone talks we hear, but too often we don’t listen. Listening involves an active search for meaning, whereas hearing is passive. Active listening is difficult – it is often harder than talking, as it demands intellectual effort and concentration.
- Constrain emotions. If you can’t, refrain from further communication until you have regained your composure.

- Watch non-verbal cues.

B.13.3 How People Learn

People learn in different ways – some learn better one way; some another. For example, some people love to read by themselves while others learn best in groups; some love to study while sitting in chairs, others while lying on a bed or floor. Each of us also has a preferred learning style:

- Visual learners like to see pictures or diagrams.
- Auditory learners like to listen.
- Tactile learners learn best by using their sense of touch.
- Kinesthetic learners learn best by moving their bodies.

Overall, people learn best by actually **doing** and then reviewing what they have done.

This means that when you are trying to educate people, you should use a variety of means, so that what you are doing will appeal to a wide range of people. For example, the following table lists four educational activities, which use from one to four different educational methods. While just talking requires the least organisation, it will also appeal mainly to people who like listening. Conversely, talking, showing pictures, doing group activities and taking home some handouts (e.g. notes and pictures) requires much more preparation and resources but will appeal to a much wider range of people.

Table B-16: Range of People Interested by Different Educational Activities

Educational Activity	People who like to listen	People who like to see pictures/diagrams	People who learn best in groups	People who like to read by themselves
Talk	✓			
Talk and show pictures	✓	✓		
Talk, show pictures and do group activities	✓	✓	✓	
Talk, show pictures, do group activities and give handouts to take home	✓	✓	✓	✓

B.13.4 Behavioural Change and Attitudes

Changing peoples' attitudes and behaviour is a very difficult task and one which can sometimes take many years to succeed on a wide scale.

A very important principle to understand is that different people are at different stages in terms of their behaviour on certain issues. One common model says that people are in one of five different stages, as summarised below.

Table B-17: Different Stages of Behaviour

Stage	Name	Typical Comment	Description
1	Ignorance, or	Huh?	You don't know about the issue and hence don't care, or
	Lack of perceived need	So what?	You know about the issue but see no reason to change your behaviour.
2	Learning/ thinking	Umm...let's look into this.... Oh, that's how!	You've heard about the problem, realise that you may be vulnerable and are seeking information about a solution. Such people often go to the library and read up on the topic, pay close attention to any related news items on radio/TV, or talk with friends about it. They also do a lot of thinking about it.
3	Preparing	What do I need?	You do all the things needed to enable you to actually perform the behaviour (getting organised).
4	Doing	Let's do it!	You actually begin to perform the behaviour. Now, the difficult part is keeping it going.
5	Habit	Do it all the time	You do the behaviour all the time, virtually without planning or thinking – it is part of your normal routine, like brushing your teeth. The length of time required for something to become a habit depends on the behaviour in question, with easy things taking a short time, while hard things may never become habits.

Two examples are given below to help understand this model:

Example 1	Coping with Diabetes
Stage 1	You eat what you like and don't do much exercise but seem healthy.
Stage 2	You seem to be passing urine a lot and losing weight. Your doctor tells you these are symptoms of diabetes. You borrow a book from a friend about diabetes and watch health related TV programmes.
Stage 3	You decide to try and control your diabetes through healthy living. You buy some appropriate food (e.g. bitter melon and radish; no carrots or beetroot) and make a "fitness" plan.
Stage 4	You start your new diet and walking three times per week.
Stage 5	Three months later and you've managed to keep to your diet/fitness plan most of the time. Your doctor says the diabetes seems to be under control. Well done and keep going!

Example 2	Neighbourhood Cleanliness
Stage 1	You are not aware of the health and environmental problems caused by poor garbage disposal. Normally you discharge your garbage at the roadside.
Stage 2	Your child gets sick, after playing in a nearby waterway. Your neighbour says he never lets his children play there because of the garbage in it.
Stage 3	You buy a dustbin. You and your neighbours ask the Council to remove the garbage from the waterway.
Stage 4	You start to put your garbage out in the dustbin for collection as do some of your neighbours.
Stage 5	A year later and you are still going + 70% of your neighbours have joined you. Your neighbourhood looks cleaner and the children are healthier!

The practical implications of this model for those trying to get people to change their behaviour are that:

- You must use different tactics according to the stage people are at.
- You must move one stage at a time, building bridges across stages.
- You must allow enough time for people to move through stages.

Another important point to appreciate is the basic principle that “none of us can ever change anyone else”. People have free will and a lot of the time, we don’t have control over other peoples’ actual behaviour – we can’t make them change. Maybe they will do the desired behaviour while we sit there watching them, but as soon as we leave, they return to their old ways.

However, if we can change their attitudes towards the issue in question, then they are more likely to change their behaviour themselves and this change is much more likely to be long lasting, even when we are not there! Lasting behavioural change is achieved only when people decide to change themselves.

It is also important to appreciate that there are times when people do not behave consistently with their attitudes, especially concerning risky behaviours. For example, virtually everyone has performed some stupid, dangerous or malicious action at some stages in their lives, even though they knew this. Often, this is a result of peer group pressure. Similarly, when the attitude involves going against the status quo, fear may stop people from behaving consistently with their attitudes. Often, this is a result of community, workplace or political pressure. Hence, you need to consider how to get people to use the new attitude to drive their behaviour.

Another important issue to consider is that people may say “why should I change? – it is not going to make any difference, as everyone else does it!”. This is a common reaction. It is important to try to convince people, that even if just one person changes to begin with, this may persuade other people to change. Remember, it takes many streams to make a mighty river!

B.13.5 Education Programme Planning

B.13.5.1 Objectives and Key Messages

Public education is most effective when it is properly planned and prepared. In particular, you should think about what you are trying to achieve - what are your key objectives? - write these down. Then, prepare a number of key messages you want to communicate to people for each objective. Some examples are given below. You then need to think how to communicate these key messages to people so as to achieve your educational objectives.

Table B-18: SWM Education Objectives and Key Messages

Objectives	Key Messages
Improve health	<ul style="list-style-type: none"> • Garbage that is thrown anywhere attracts flies, rats and other pests, which spread disease. • Mosquitoes can breed in stagnant water in drains blocked by garbage or water trapped in tins, plastic bags, tyres, etc. which have been thrown away. • Don't use any water contaminated with garbage – it can make you sick. • Do not eat any food you find amongst garbage – it can make you sick. • Good sanitation is good health. • Good sanitation will save you money on health care.
Protect from injury/hazards	<ul style="list-style-type: none"> • Some waste is dangerous and can cause injury; e.g. broken glass, rusty tins, hospital syringes and needles. • Some types of scattered waste are hazardous – they can explode, be poison or give off dangerous fumes when burned (e.g. PVC plastic).
Protect animals/fish and environment	<ul style="list-style-type: none"> • Don't throw garbage into water. • Garbage thrown into streams/rivers/ lakes causes pollution and may kill fish. • Fish/animals swallowing plastic waste may die. • Burning waste can cause air pollution.
Clean up community areas, reducing waste scattering	<ul style="list-style-type: none"> • Don't throw your garbage on the ground or into drains/waterways – it makes the community look dirty and ugly. • Let's clean up our community. • Put garbage in a bin. • Bring out your garbage for collection when you hear the tractor coming. • Good environment = good living conditions.
Improve public participation	<ul style="list-style-type: none"> • Good SWM is very important for society. • The LA needs your help to do good SWM. • You can cooperate with the LA in many ways: Follow the waste discharge rule; don't throw waste loosely onto roads or into drains/waterways; sweep the road in front of your house; beautify the area around your house; take your garbage out to the LA tractor when you hear it coming.
Improve LA-public communication	<ul style="list-style-type: none"> • The LA wants to communicate with you better about SWM. • Form a street committee in your neighbourhood. Invite your Area Supervisor to your meetings and tell them about SWM issues in your community. • Your neighbourhood has a health animator. They are responsible for liaising with the LA on SWM issues. Tell them your concerns!
Reduce waste	<ul style="list-style-type: none"> • Reduce polythene usage – use durable, long lasting shopping bags. • Reuse glass, plastic and metal containers. • Start home composting.
Garbage is a resource	<ul style="list-style-type: none"> • You can make money from garbage. • Separate your garbage and sell your recyclables to earn some extra money. • Give your food/kitchen waste to people raising pigs. • Use your organic waste to make compost for growing vegetables or for sale.
Other	<ul style="list-style-type: none"> • Water thrown in drainage channels blocks them, causing floods during the rainy season.

B.13.5.2 Target Audience

Think carefully about your target audience – who are the people you should be educating? This may be the people who are responsible for garbage in the household (e.g. the senior woman), the people who cause the problem (e.g. throwing garbage loosely into the road/waterways) or who are most affected by the problem (e.g. children playing in contaminated waterways). Think also about their attitudes and what stage of behaviour they are likely to be at. The choice of target audience affects the type and level of environmental education.

Childrens' education can be most effective. It is easier to change their attitudes and personal behaviour, but it requires a long term approach – often generational change. However, children can sometimes influence their parents/guardian to change their attitudes/behaviour, depending on the social structure within the society.

Adult education can be the most difficult, often being hard to change their attitudes and behaviour. However, if successful, short-medium term changes may be observed.

B.13.5.3 Duration

If you are concerned with a specific, highly visible problem (e.g. cleaning up scattered waste piles in the neighbourhood), a short-medium term programme may be successful – possibly even a single event.

If you are concerned with a more general problem (e.g. stopping people from continuing to dump garbage loosely around the neighbourhood), it can take a long time to achieve any significant visible changes – sometimes years. In this case, an ongoing programme over several years may be necessary. In such cases, it is often useful to divide the programme into smaller stages, with review/evaluation at the end of each stage.

B.13.6 Methods

There are a wide variety of educational methods available to you, all varying in terms of the effort, time and resources (equipment and money) required to prepare and use them. In selecting what method you will use, it is important to remember the points made in the preceding sections and the following:

- The best educational activities are simple and fun but have a strong message.
- In all cases, spend a little time and effort to find out what educational resources already exist within your area and nationally which are available for general use. Finding even just one useful thing usually makes this effort worthwhile. Section 12.7 describes some available environment/SWM education resources within Sri Lanka. In particular, the Central Environmental Authority (CEA) is a useful resource.
- Choose methods appropriate to the target audience and within resource/time/skills/cost constraints – see the following table.
- Once you have an idea about which method(s) to use, plan your event or programme. It should include most, possibly all, of the following components, depending on what you decide to do:
 - Introduction: Welcome everyone. Explain the purpose of the event and give them an outline of its content.

- **Input:** Provide them with some information on the topic (e.g. talk, pictures, video, etc.). This should take between 25-50% of the total time.
- **Questions:** Provide an opportunity for people to ask questions.
- **Discussion:** Provide an opportunity for people to discuss what has been presented to them. This can be done by splitting people into small groups or holding a large open forum.
- **Activity:** Provide people with an activity to do. Often, it is good to split people into small groups for this.
- **Reporting back:** If people have been split into small groups for discussion or an activity, it is usually important to allow each group to report back to the whole group on what they have done/discussed.
- **Summary:** Summarise the main points emerging from discussion/presentations. In particular, record any outstanding issues requiring clarification or followup and any action points, including who is responsible for doing them and by when.
- **Recording:** Make a brief record of the meeting proceedings, including venue, date, start and finish times, number of people present, brief description of content, main discussion points, followup and action points.
- **Feedback:** Provide an opportunity for people to comment on how useful and interesting the programme was. Often, people are more honest when they are allowed to write down their comments on an unnamed piece of paper rather than having to speak them aloud. This will be useful to you for planning your next education event.

For an educational programme involving a number of events, each may follow this format, but different events will have different topics and there should be some sort of progression throughout the programme, so that each event builds on the previous one.

- Once you have prepared a draft event/programme, trial it. Typical questions to consider are:
 - Does it satisfy your objectives?
 - Does it deliver the key messages? – what did people learn?
 - Does it hold peoples' attention/interest?
 - Was it too long/short?
 - How could it be improved?
- It may help to do the trial and go through these questions with a colleague with experience in this area. Alternatively, it can be useful to test the event/programme with a sample target audience, especially if this is the first time you have done this. Following this, revise/modify the event/programme accordingly.
- Make a list of what you need to take for the event/programme: leaflets, flipchart paper, marker pens, etc.

- There are a wide range of educational tools or techniques you may use to enhance your message and/or persuade people to act. Some of these are listed in Section 12.8.
- All education/awareness raising activities require followup practical activities or initiatives to build on the messages being communicated and make the desired action possible. It must be feasible for people to do what the LA is asking them to do. For example, there is no point in telling people to put out their garbage for collection on a certain day and time if the collection vehicle does not keep to this schedule.
- Educators must be seen to be practising what they are encouraging people to do. For example, if you are asking people to separate their garbage into different categories to promote recycling, then the LA should be doing the same thing within their premises.

The following table lists a variety of educational methods and provides some brief comments on them.

Table B-19: Possible SWM Education Methods

Method	Comments
Leaflets, Pamphlets	<ul style="list-style-type: none"> • Relatively simple method that can reach a large number of people. • Short term impact - leaflets/pamphlets are often misplaced or thrown out. • Can utilise existing material (e.g. CEA resources) or produce own leaflets – this can be done on a relatively small (e.g. community) scale using hand drawings at low-medium cost. Large scale professional production requires significant time and money for preparation and printing. One low cost development option involves holding a competition for children to develop the leaflet/pamphlet, also generating more interest in the final product.
Books, stories, songs, games	<ul style="list-style-type: none"> • Relatively simple method that particularly appeals to children – games/activities stimulate interest and make learning fun. • Long term approach – looking at generational change plus followup needed to check what is being learned. • Ideally, use existing resources. If not available, it generally requires significant time, skilled people and money for developing and printing such resources.
Posters, noticeboards, storyboards, murals, banners	<ul style="list-style-type: none"> • Relatively simple method but must make strong, visual impact – hence, it is vital that posters and other media are appropriately sized, easy to read and attractive. • Short term impact - often quickly covered over, defaced or torn down and deteriorate with time. • Medium time, skilled people and money required for development and production. One low cost development option involves holding a competition for children to make a poster, etc., generating more interest in the process. • Can be erected in problem places (e.g. waste scattering sites) to try to stop such practices (except murals require a permanent surface on which to be drawn).
National radio or TV programmes	<ul style="list-style-type: none"> • More complex and can reach a wide audience – both children and adults – but competing for attention with programmes on other radio/TV channels. • Impact may be short term, if programme is only broadcast once. • Often relies on suitable programmes being available and broadcast at the appropriate time. However, tape/video copies of programmes can sometimes be bought at low cost for repeated use (requires suitable playing equipment to be available; e.g. TV/video).
SWM Video	<ul style="list-style-type: none"> • More complex and can reach a wide audience – both children and adults. • Effective, especially when includes local content – visual images often have a stronger impact than words. • Suitable videos may be available, though often they have a national rather than local focus. Producing your own video requires significant time, skilled people and money. • Videos are a resource that may be used many times until they become out of date. • Requires access to power source and TV/video for use.

Public meetings	<ul style="list-style-type: none"> • Relatively simple and low cost. • Can be very effective if organised properly, particularly if the topic is of strong interest to the community and/or some entertainment is provided to encourage people to come. • May range from meetings with existing community groups (neighbourhood, business, religious) to large open public meetings. • Generally attracts only interested people who may already have a strong environmental awareness and knowledge rather than reaching out to those that don't.
Invited speakers	<ul style="list-style-type: none"> • Relatively simple and low cost. • Good speakers can provide <i>powerful messages that have a strong effect on many people in the audience.</i> • Generally attracts people interested in the topic rather than a wider audience.
Slide/powerpoint presentations	<ul style="list-style-type: none"> • Relatively simple but high cost (normal/digital camera, slide/powerpoint projector and screen needed). • Can be very effective, as allows local images to be shown to local people. • Requires some effort – finding the right photo can take time. • Requires some technical knowledge to take photos and use projector. • <u>Equipment must be stored securely.</u>
Competitions	<ul style="list-style-type: none"> • Relatively simple, low cost and effective, capable of reaching a much wider audience than competition entrants (e.g. publishing winning entries in newspaper or holding an exhibition). • Variety of forms – essays, posters, poems, songs, etc. • Must be well organised and publicised. • Good entries become education resources. • <u>Requires low-medium funding/sponsorship to cover costs.</u>
Drama, street theatre, music	<ul style="list-style-type: none"> • May reach a wide audience, with the appeal of drama, street theatre and/or music attracting people who otherwise would not be interested in SWM education events. However, you are competing with other forms of entertainment, especially TV, for <i>peoples' time.</i> • Can provide powerful messages. • Significant time input and skill people required. Can be costly unless performers volunteer their services.
Special theme day activities	<ul style="list-style-type: none"> • Relatively simple but often of limited appeal. • Provide very good means of generating and/or renewing interest in SWM, cleaning up pollution hotspots (e.g. removing litter from beaches) and reviewing progress made over the last year. However, any improvements may only be short-lived. • Requires good organisation (lots of voluntary effort in short time), publicity and various resources, depending on nature of the day. • <u>Requires low-medium funding/sponsorship to cover costs.</u>
Open days at LA SWM Facilities	<ul style="list-style-type: none"> • <u>Actual visits to SWM facilities shows people what happens to the waste they put out for collection, creating greater awareness of the associated environmental problems and/or potential solutions.</u> • Often short term impact, with people quickly forgetting what they saw. • Must be well organised, including transport. • Particularly appealing to school groups.
Printed thematic products	<ul style="list-style-type: none"> • Simple but must be attractive and with a strong message to be effective. • Many possibilities; e.g. durable shopping bags or tee-shirts with messages printed on them. • Significant time input and resources may be required for production. Low cost option involves holding a competition to design the product. Some items may be sold to people, generating income to cover costs. • Durable shopping bags with printed messages provides strong educational message to others who observe someone using them, rather than polythene bags.
Creation of a cartoon character or logo or slogan	<ul style="list-style-type: none"> • Simple but effective – character often of particular appeal to children. • Character, logo or slogan are associated with all media/events, giving a sense of continuity to the education programme. • Character, logo or slogan development costs can be high. Low cost option involves holding a competition to design the character, logo or slogan.

B.13.7 Resources

The following table lists a variety of environmental/SWM resources and suggests how you may be able to utilise or work with them or use some of the resources they have already created.

Table B-20: Environmental/SWM Resources

Resource	Activities and Comments
Voluntary organisations and non-governmental organisations (NGOs)	Find out about any voluntary organisations and NGOs in your area. They may have already developed local resources on SWM and the environment you can use/borrow and/or may be willing to help you with SWM educational activities.
Schools	<p>Many schools are involved in environmental education programmes, coordinated by the Central Environmental Authority, including:</p> <ul style="list-style-type: none"> • Eco Clubs: pilot scheme for primary children that began in three districts in 2001, featuring environmental activity and field books and three activity based badge scheme. • Environmental Pioneers Brigade: nationwide programme in secondary schools, featuring a five tier badge system, individual projects and with a strong focus on SWM. • "Derana", speech competition for secondary school students on radio, involving one minute speeches on environmental topics. <p>You may be able to suggest to schools suitable SWM projects/activities they could undertake in their neighbourhood (e.g. cleanup day). Schools may also be interested in taking part in competitions, creating resources you may be able to use in other educational activities.</p>
Central Environmental Authority	<p>Many school (see above) and public education activities, including:</p> <ul style="list-style-type: none"> • Preparation of literature, posters, newsletters, booklets, and films for public use. • Organisation of public education programmes through CEA appointed Regional Officers. • Organisation of "exhibitions" on various environmental themes for the general public and school children and participation in exhibitions organised by others. • Responding to public requests for environmental resources (leaflets, etc.). • Responding to invitations to give presentations on environmental themes through the CEA Regional Officers and Colombo based Officers. • Formation of Environmental Youth Clubs (EYCs) in 2000, to provide a forum for youths who were previously involved in the Environmental Pioneer Brigade (EPB) programme but have now left school to continue their involvement in environmental related activities. • Production of the "Soba" Asidisi Rupavahini Environment television programme in collaboration with ITN. This is telecast over the ITN channel on a monthly basis on every "Poyaday" (Full Moon day) at 9:35pm. This programme aims to educate the general public as well as school children on environmental issues in Sri Lanka. • Production of a quarterly newspaper "Environment News" in English and Sinhala, with 15,000 copies being distributed to government offices, NGOs, schools, etc. • Organisation of regional/national programmes for special theme days (e.g. World Environment Day, Biodiversity Day, Tree Planting Day, Earth Day).

Radio/TV	<p>Various programmes on different environmental issues, including:</p> <ul style="list-style-type: none"> • Parisarayata Vinadiyak (one min duration) • 9.05 • Atapattama • Parisara Sirisara
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B.13.8 Tools

The following table lists a variety of educational tools or techniques you may use when educating people to get your message across and to encourage them to act.

Table B-21: Educational Tools

Tool	Description	Examples
Influence	You deliberately try to change the person's attitudes/behaviour but in an indirect or informal way. This relies on them taking interest in the issue.	Give them leaflets to read, let them see your own example, invite them to public meetings.
Persuade	You use direct communication to change their attitudes/behaviour – your opinion against theirs. This can become very subjective and argumentative.	Direct discussion with person.
Teach/educate	You teach/educate them about the issue in a formal environment. This requires getting them to come to the event but lets them make up their own mind (relatively objective).	Public talks, workshops, seminars, etc.
Appeal to religion	Appeal to common religious beliefs or morals concerning the environment.	Buddhism: "protect the environment that protects us".
Encourage	Offer support/praise for good behaviour.	"Your neighbourhood looks much cleaner and the children look healthier!"
Reward	Reward people for good behaviour.	Monthly prize to cleanest neighbourhood
Scare/frighten	Warn them of the undesirable consequences of not acting.	"You'll have more flies and mosquitoes in your house if you keep throwing garbage in the stream".
Tell off	Tell off for not doing the desired behaviour.	"Don't do that – it makes the neighbourhood look dirty and ugly".
Punish	Punish people for not doing the desired behaviour	Fines, non-collection of waste for people not following the rules.

B.13.9 Evaluation

Evaluation is important to determine whether your education event/programme actually worked. In its simplest form, evaluation involves looking for signs of change. For big or long term programmes, more systematic evaluation may be required at periodic intervals. In both cases, the evaluation can be based on selecting a number of "Indicators" of success. These should relate to the key objectives and messages you are trying to teach people about. Examples of appropriate indicators include:

- Decrease in incidence of disease (“improve health” objective).
- Reduced garbage in drains/waterways (“protect environment” objective).
- Reduced number of loose/scattered waste piles in the neighbourhood (“clean up community” objective).
- Increased number of houses with garbage bins (“clean up community” objective).
- Increased number of people bringing their garbage out for collection when they hear the tractor (“clean up community” and “improve public participation” objectives).
- Increased number of people coming to community/LA SWM meetings (“improve LA-public communication” objective).
- Reduced number of public complaints (“improve public participation” objective).

For big or long term programmes, it is often wise to use independent evaluators for several reasons including:

- Trainers may be “too close” to the programme to be able to evaluate it properly.
- Independent evaluators bring different, often wider experience to the evaluation.
- The audience may be afraid of stating their true opinions to programme staff compared with external evaluators.

Monitoring/review may also be undertaken 2-3 yrs after programme implementation to check its medium/long term success.

Part C

SWM Action Plan

Preparation

C.1 Introduction

In this context, organisations may be considered to have two key functions:

- **Maintenance:** normal day-to-day tasks to keep the town/city running in its current state.
- **Improvement:** short, medium and long term measures to improve the town in accordance with a vision and plan.

Maintenance is mainly about **management** while improvement is more about **leadership**. The ultimate aim of both is the same - providing a good service to the public.

In addition, LAs operate within a legal and policy framework (e.g. National Environment Act (NEA), National Strategy for SWM (NSSWM), Municipal or Urban Council Ordinance), which sets boundaries on what a LA can and cannot do.

Currently, most LA's mainly operate in a maintenance mode. Proposed improvement measures are heavily influenced by politics, often following the whims of politicians but without any clear, long term planning. Often, such improvement measures are changed when new politicians come to power. Improvement is also affected by the periodic transfer of government servants, the maximum term of office for them in any one place being five years.

SWM Action plans are generally not prepared, but LAs face increasing pressure to prepare such plans for several reasons:

- Garbage is a growing problem – more garbage is being generated, the composition is changing and becoming more difficult to dispose of, while the general public are becoming increasingly vocal in voicing their concerns about the resulting social, health and environmental impacts of poor SWM.
- SWM needs forward planning like other infrastructure services – water, wastewater, drainage, etc. This is becoming increasingly important, as open dumping is no longer acceptable or tolerated in many places but it takes several years to procure, plan, approve and develop a sanitary landfill site. Hence, at least medium term forward planning is vital.
- The current Court case: Public Interest Law Foundation (PILF) versus 11 LAs is a direct result of failure of the Central Environmental Authority (CEA) and LAs to implement the NSSWM. The Court is requiring LAs to prepare SWM Action plans and is setting a precedent which all other LAs are likely to have to follow in the short-medium term future.
- Donors will increasingly require action plans to be prepared as a pre-condition for obtaining financial assistance for SWM projects. In any case, donors are more likely to support LAs with Action plans than those without.

Hence, SWM Action plans are a very important improvement measure. Essentially, the Action plan is the “heart” of an improvement “plan-do-review” cycle, as illustrated below.

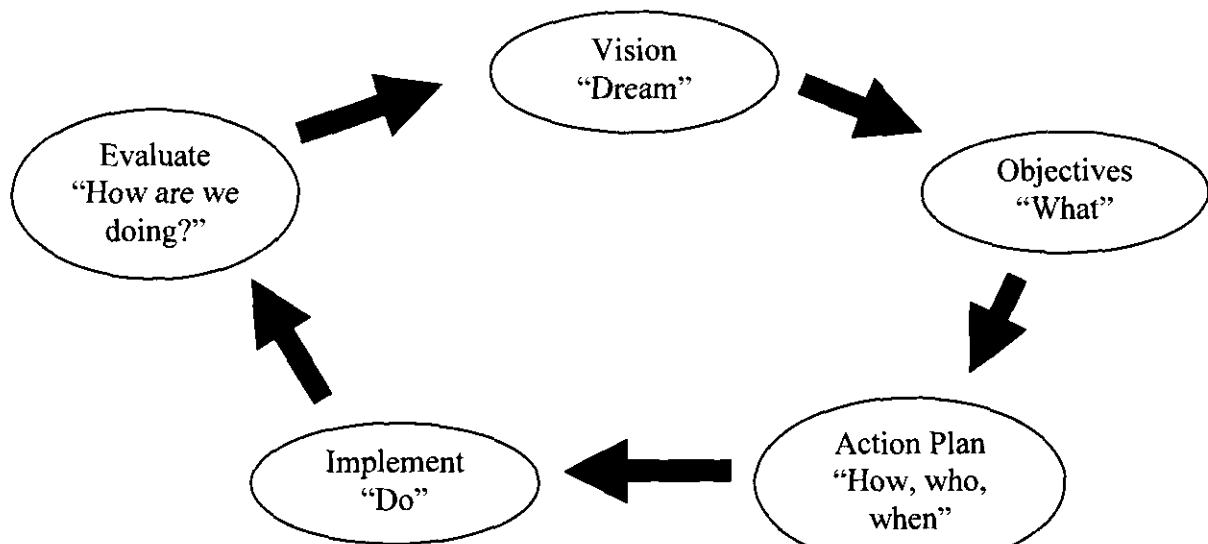


Figure C-1: Improvement "Plan-Do-Review" Cycle

C.2 Scope

The Action Plan at the very least should contain a five year plan in outline form, a detailed Action plan for the next year, and a final disposal plan for the next three years.

Preferably, a 10 year outline plan should be prepared, together with a detailed Action plan for the next three years.

Generally, the Action plan is divided into short, medium and long term periods, these varying in duration from 2-4 years. It may be useful to define these periods so that they start and end with scheduled Council elections, encouraging the Council to reach certain targets and implement relevant measures during its term of office, thus making them more accountable to the public.

C.3 Understanding the Present SWM Situation

Before preparing an Action plan, it is vital to have a reasonable understanding of the present SWM situation. A reasonable picture can be gained without too much expense through the following steps:

C.3.1 General

- Make a list of some of the special features of your town that have implications for SWM. For example:
 - If the town is a busy commercial, trading centre, commercial waste generation may be high.
 - If the town has a high floating population, it may be difficult to get their cooperation for SWM.

- If the town has reasonable rainfall and lots of vegetation and trees, garden waste generation may be very high.
- If the town is very hilly in some areas, garbage collection may be difficult in such places.
- If it is close to the sea, corrosion of SWM vehicles and equipment may be a serious problem.

C.3.2 Waste Generation to Disposal

- Make a list of the different sources of waste within the LA limits. Typical categories are households, commercial, markets, industry, institutions, other (public places, street sweepings, drain cleanings). In particular, identify large waste generators and places producing problematic wastes (e.g. hospitals, slaughterhouse, some industries).
- Get an idea of the composition of waste reaching the disposal site by talking to collection workers and landfill staff. Typically, Sri Lankan waste is 60-80% organic, contains relatively few high value recyclables (metals, glass, hard plastics), small but significant amounts of low value recyclables (paper, soft plastics, textiles) and small quantities of other materials (mainly inerts). If you have sufficient resources and time, you may undertake a waste composition survey.
- Find out whether any groups are involved in waste reduction activities – e.g. schools, Lions, NGOs, etc. What do they do? How effective is their work?, what problems do they have?
- Find out about waste recycling within the town. How many households are visited by individual recyclable collectors?; do LA collection workers salvage many items for recycling?; are there many middlemen shops within the town and what proportion of the materials they buy come from within the LA?; are there many micro-enterprises involved in reuse or recycling activities (e.g. making paper bags, recycling waste plastics, hand paper making, etc.). What problems do such people and places have?
- Find out if any waste is taken for processing or treatment (e.g. are there any composting facilities or biogas plant processing MSW?). Visit any such facilities and check their operation. What problems do they have? Are they financially viable?
- Find out how much waste is taken for final disposal, by looking at disposal site records, or if these do not exist, counting the number of vehicle loads per day and converting these to tonnes. What factors (e.g. festivals) result in big increases in the waste disposal amount?. Again, if you have sufficient resources and time, you may undertake a “vehicle count” survey at the disposal site.
- Draw a picture or diagram showing where waste comes from and where it goes to, filling in as much information, including quantities, as you can.

C.3.3 Institutional Arrangements

- Find out the present institutional setup for SWM – drawing a diagram may be useful.

- Find out what works the “waste management section” is responsible for, what these works involve, and the number of workers, vehicles, equipment, etc, involved in these works.
- Find out how much money is spent on SWM and what percentage of LA staff work in SWM. If this is not possible, look at the most recent budget to find out the amount and proportion of the LA’s budget allocated to SWM and the number and proportion of SWM workers by cadre.
- Find out if there is any charging system for waste collection and/or disposal. If so, is this being implemented effectively and how much revenue is collected by this means?
- Check what rules and regulations are in place for enforcing SWM.
- Find out about the vehicle repair system. Inspect the workshop, check what repairs it can and cant do, check how spare parts are procured and the administrative system for approving repairs. How much of the workshop’s budget is spent on SWM?

C.3.4 Technical System

- Find out how many zones the town is divided into for SWM purposes and what proportion of the LA population is provided with a garbage collection service. SWM staff should be able to estimate this.
- Find out how people discharge their garbage and how the LA collects this garbage. This can be done by talking to PHIs, supervisors and drivers. However, often the best way is to go and look for yourself. Choose 2-3 areas of the city with different characteristics or discharge/collection systems operating and follow the collection vehicles during their daily work. This is also a very useful way for finding out what the real problems are in the field. Keep an eye out for the number and type of collection points, the amount of waste scattering, how many animals are searching for food amongst discarded garbage, the amounts of garden and building waste and the number of drains containing garbage or blocked by it. Also check how many labourers there are per vehicle, what clothes, protective equipment and tools they have and how many loads they can collect per day on average. What proportion of their time does loading make up?
- Find out how much it costs to operate and maintain different types of vehicles per year.
- Visit the final disposal site and watch how waste is unloaded and disposed of. Is the deposited waste regularly covered with soil? How much reserve capacity does the site have? What problems can you see, smell or hear? – odour, mosquitoes, flies, rats, birds, grazing animals, scattered waste, smoke, fire, people scavenging for recyclable materials, leachate, etc.? Talk to some residents in the area to find out what problems the landfill might be causing them.

C.3.5 Social Aspects

- Arrange some community meetings and find out peoples' opinions of the current SWM system and how it might be improved. This may be done, by meeting with existing groups (e.g. Welfare Society, church or temple groups, Chamber of Commerce) or arranging meetings in particular areas.
- Arrange a meeting with cleansing workers to find out about their working conditions, problems and opinions.
- Check what awareness and environmental education programmes are being conducted within the town by the LA, schools, voluntary organisations, NGOs, etc., particularly any related to SWM.

This information can best be collected by a team of people. In some cases, a lot of it may already exist in different places within the Council, so check this first. Some tasks may not be necessary, while additional tasks may need to be added, depending on local conditions. Remember, the idea is to build up a **reasonable and sufficient picture** of the real SWM situation which will form the basis for identifying and prioritising SWM issues, following which the Action plan can be prepared.

C.3.6 Identification and Prioritisation of Issues

The next step involves identifying key issues and prioritising them. This can often best be done by holding a stakeholders workshop at this point, inviting LA staff, Council members, members of the public, representatives from other government departments, commerce, industry, institutions, NGOs, etc. A useful format to follow involves making a presentation about the present SWM situation and then having open or group discussions to identify the key issues and possible associated improvement measures. Alternatively, the Council may hold internal meetings of relevant staff to do this.

Careful thought should be given to identifying the real issues. For example, if the public say "collection vehicles do not come regularly", is this because the vehicles are old and often breakdown and it takes a long time to repair them (issue = workshop, no vehicle replacement policy problem), or because there are not enough vehicles (issue = number of vehicles), or the tractor has gone somewhere else (issue = political interference, driver/labourer corruption) or because there are not enough senior staff to properly manage vehicles and labourers (issue = institutional/management capacity).

In this process, it is important to look at what the LA and other groups are doing well in relation to SWM, rather than just problems, and how these successes may be built on and strengthened.

Experience from this study suggests that many LAs share similar problems, which may be broadly categorised in order of decreasing seriousness, as follows:

- Weak institutional and organisational system: current SWM management structure does not reflect the significance of SWM within the LA; shortage of senior staff dedicated to SWM works; lack of short, medium and long term development plans; poor supervision; poor labourer management and performance; poor cooperation with other departments involved indirectly in SWM; poor public-LA relations; political intervention; high SWM expenditure and difficulties in finding out how much money is actually spent on SWM.
- Poor final disposal. Generally, this is done by open dumping, with soil cover sometimes being applied, while few, if any, other environmental protection measures are taken, resulting in many social, health and environmental problems. In addition, many landfills have small capacities or will soon be full, while little, if any thought is given to finding a new disposal site. Appropriate disposal of healthcare hazardous waste is also often a problem.
- Lack of a proper waste discharge system, with many people discharging garbage in any container or none, at any time and place, resulting in lots of garbage discharged at the roadside, or at public collection points, which combined with many stray animals searching for food, causes waste scattering, creates mini-dumps and poor sanitary conditions. Often, lots of garden and building waste is also discharged at the roadside, collection points or on vacant land, while drains are often full of, or blocked by garbage.
- Collection and transportation is inefficient and unreliable, being characterised by many handcarts and collection points, double handling and long loading times, many vehicles are too old, frequent vehicle breakdowns and long delays for repairs and a low number of vehicle trips per day. These problems, particularly vehicle breakdowns, make it difficult for LAs to keep to scheduled garbage collection times, routes and frequencies.
- Most LAs have few, if any, centralised garbage processing/treatment (recycling or composting or biogas) facilities. Considering that the composition of Sri Lankan waste is very suitable for composting and the final disposal problems facing many LAs, serious consideration should be given to introducing medium-large scale composting and/or biogas facilities.
- Poor public cooperation in SWM, with many people still discharging their garbage and litter to public places. LAs are partly to blame for this, due to the collection service being unreliable and a lack of ongoing and systematic waste education, public promotion and information dissemination efforts. Conversely, many residents are keen for improvement of the present system and are willing to cooperate.

Other less serious problems, specific to local conditions (e.g. stationary trailer collection/transfer points are poorly designed, problems removing drain cleaning waste from some areas).

C.4 Defining Your Vision and Objectives

The next step involves thinking about and defining your vision or main goals for SWM over the duration of the Action plan. The vision is the LA's "dream" for SWM - for example: "To make the town a clean, healthy place for people to live and to protect its environment".

Objectives should then be defined. These comprise a number of specific aims designed to achieve the vision. Some useful objectives, consistent with the problems identified above are listed below.

100. Reforming and strengthening the institution and organisation related to SWM works.
200. Promoting waste minimisation at source (3 Rs = reduce, reuse, recycle).
300. Improving public education/awareness and participation in SWM.
400. Improving the SWM technical system including garbage discharge and storage, collection and transportation and hazardous healthcare waste management.
500. Promoting garbage processing and treatment.
600. Improving final disposal.

It is often useful to introduce a numbering system at this stage, as above, which will be used throughout the Action plan. This helps to clearly identify specific strategies and measures related to different objectives (e.g. 110, 120, 130, etc. all related to objective 100) and provides a useful system for keeping track of changes made to the Action plan, as it progresses from a draft form to the final version.

C.5 Action Plan

The Action plan describes what is actually to be done to fulfil the vision and achieve the objectives. It should identify the strategies (approach) and measures (tasks), required resources (human, equipment, financial), costs, responsible persons, timeframe for action, evaluation. It answers the questions: "how", "who" and "when". Critical questions to ask at this stage are:

- What basic strategies can be used for achieving the desired objectives?
- What should be the top priority measures in the Action Plan?
- How can the LA afford to implement the Action plan using available resources (human, equipment, financial)? How might it be able to supplement these resources? Improving revenue collection and making full use of internal and external resources are crucial to this, especially by encouraging public participation.
- What targets should the LA set for measuring the success of the Action plan?

Other key points are:

- The Action plan must be practical, affordable and enforceable.
- The objectives, strategies, measures and targets together should be specific, relevant, measurable, achievable and time-framed.

- Strategies and measures may be short, medium or long term.

C.6 Developing Strategies and Measures

The content of the Action plan may be developed as shown in the following diagram and explained below:

- Address issues one by one in the order of most to least serious. Some of the less serious issues may possibly be eliminated at this stage, as being relatively minor or insignificant.
- Develop solutions for each issue, indicating who will be responsible for implementing these and when they will be implemented, either in terms of which year, or in the short, medium or long term. For example, a possible solution for the very serious issue: “LA’s disposal site will be full within 2-3 years” is set out below.

Table C-1: Example of Action Plan Item

Code	Item	Responsibility	Time period
620	Find and develop new landfill site		
621	LA will look for new disposal site over next 6 months	Mayor, Commissioner	Months 1-6
622	LA will arrange for relevant topographical and geological surveys at new site	Engineer, CPHI	Months 6-12
622	LA will seek approval from CEA for use of new site as landfill	Commissioner, MOH, DEO	Months 6-24
623	LA will consult with residents in area to get their approval	CPHI, DEO, CDO	Months 6-24
624	LA will prepare design and construction plans for landfill	Engineer (+ external consultants)	Months 18-24
625	LA will construct new landfill	Engineer (+ contractor)	Months 25-30

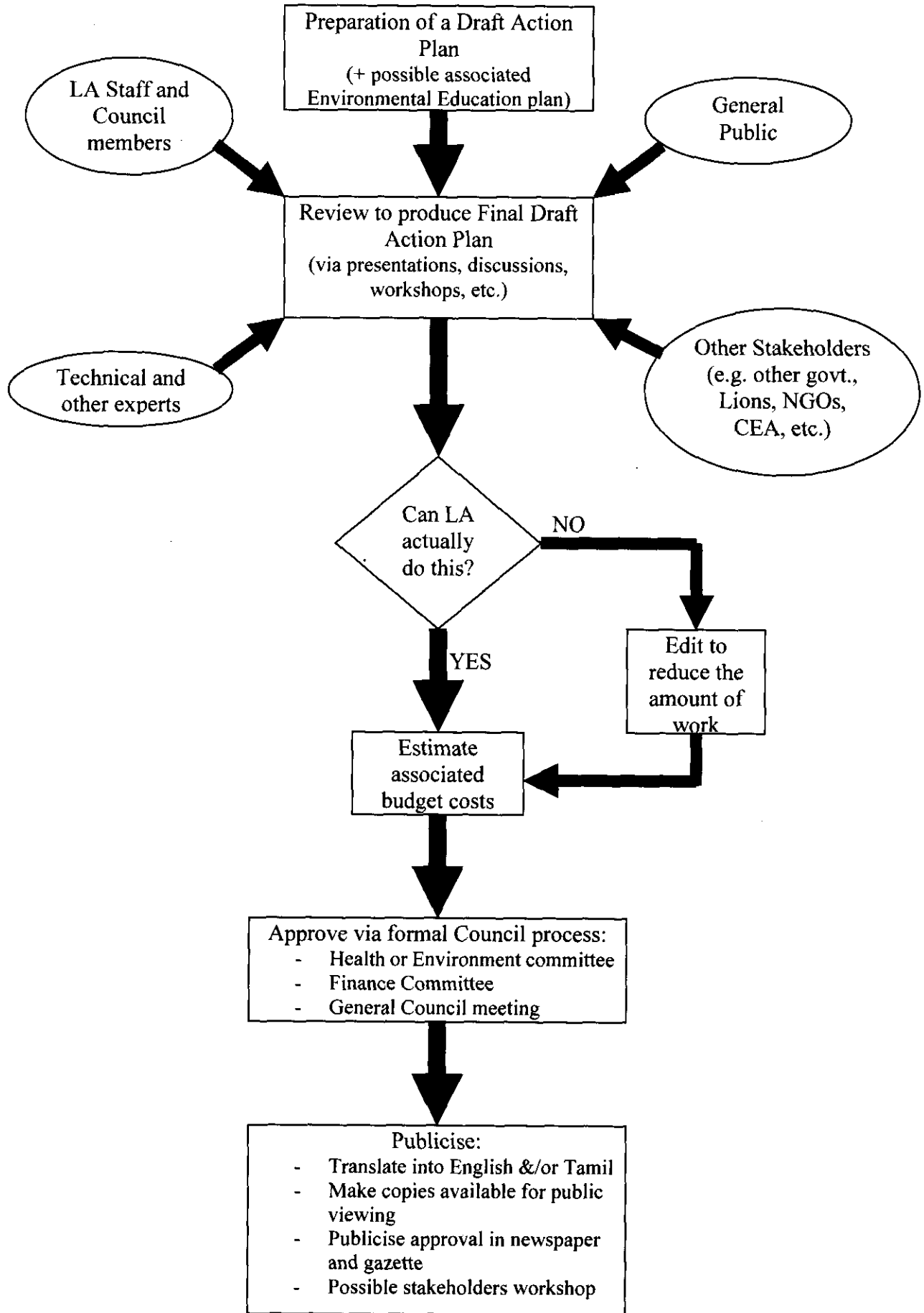


Figure C-2: Process of Preparing an Action Plan

- Compile all these strategies and measures into a single document. This is the draft Action plan. Try to keep this as simple and concise as possible. It is basically a starting point for discussion. Additional detailed information can be included as notes or in appendices. Separate special meetings may be required with the relevant staff and stakeholders to prepare an associated environmental education plan focusing on SWM.
- Revise the action plan one or more times to produce a final draft. This can be done via presentations, workshops and discussions both within the Council (staff and elected members) and externally, covering all relevant stakeholders. Consultation with technical and other experts may be particularly valuable at this stage¹. This process will help to develop understanding of the plan amongst those not involved in drafting it, increase ownership of it, whilst also ensuring that a broad range of viewpoints are included in the Action plan.
- However, as the amount of consultation increases, the Action plan will also tend to expand, with more and more issues and potential solutions being included. Remember that it is the LA that will have to implement the plan, with its limited resources in terms of people, equipment and money. Ask the critical question – can the LA actually do everything in this Action plan, based on its current capacity and where it hopes to be in 5-10 years time? If not, the Action plan must be edited, to reduce it in size, or implementation of some less urgent items might be shifted to less busy years. To assist in editing, you must consider the effort involved to implement each measure and the potential value of successful implementation, whilst keeping in mind the seriousness of the different issues being addressed, as set out below.

Table C-2: Effort versus Value

Effort	Value	Comment
Low	High	Such measures are the simplest and most beneficial to do. They should be given a high priority.
Low	Low	Such measures are also simple but the potential benefit is small. You should question whether they are worth doing.
High	Low	Such measures take a lot of effort but the potential benefit is very small. Question whether they are really worth doing?
High	High	Such measures take a lot of effort but the potential benefit is very high. Often, such measures tackle long-standing serious problems. A lot of commitment is needed to implement them.

¹ Earlier and subsequent consultation may also be useful.

Some examples are given below, of how this editing process might be done.

Table C-3: Editing the Action Plan

Item	Effort	Value	Do?	Comment
Provision of appropriate furniture and equipment for new SWM department.	Low	High	✓ ✓ ✓	These items are essential to properly establish the new SWM unit.
Improve the labourer control and discipline system.	Very high	High	✓ ✓	Generally, a very serious problem but very difficult to address without widespread support and strong management within LA.
Require labourers to wear uniforms while working.	Low	Low	✓	A nice idea and may help to lift labourer work performance, but could possibly have little or no benefit.
Regular internal meetings for all LA SWM staff	Low	High	✓ ✓ ✓	Very important. Builds team spirit, shares information, identifies and solves problems.
Establish a separate SWM category within the LA budget.	Medium - high	Medium - high	✓ ✓ ✓	Very useful for knowing how much money is allocated to SWM, but must be accompanied by separate reporting of actual SWM expenditure to be highly beneficial.
Encourage 3Rs through education and awareness programmes.	Low - medium	Medium - high	✓ ✓ ✓	Education and awareness raising is very important, but long term approach needed over many years.
Campaign for all school books to be printed with environmental friendly messages	Low	Low	x	More a national level issue. Not necessary for LA to pursue.
Distribute compost barrels to households in selected areas	Low	High	✓ ✓ ✓	Do in early years of Action plan, possibly expanding depending on initial success.
Hold regular community meetings to discuss SWM issues in different parts of the city.	Low	Medium - high	✓ ✓	Very good means of encouraging public participation. However, issues identified at such meetings must be followed up.
Collect garbage on schedule	High	High	✓ ✓	Very important to gain the public's trust, but may require overhauling many systems within the LA (e.g. vehicle repair system, spare parts procurement, etc.).
Separate hazardous waste collection system for domestic waste	Medium	Low	✓	Likely to be a problem in the long term. Hence, only include in Action plan towards end, if at all.
Replace tractors with small compactors	High	Low	✓	Expensive and tractors have about the same capacity as small compactors at present – more a long term option.
Build and run sanitary landfill	Very high	High	✓ ✓	The most difficult problem in SWM but must be addressed!

Note: Decision = Include all ✓ ✓ ✓ and ✓ ✓ items. Keep ✓ items in separate folder for consideration at next evaluation. Omit x items.

- Estimate budget costs for implementing the Action plan, at least for the next financial year but preferably for the next three years as well as estimated costs for all major expenditure items (e.g. construction of compost facility or landfill).
- Once the final draft has been produced and budget costs have been estimated, both of these items must be approved via the formal Council process:
 - Discussion and approval at LA Health or Environment Committee.
 - Discussion and approval at LA Financial Committee, particularly focusing on the financial commitments contained within the Action plan.

- Discussion and approval by the Council at a general meeting.
- Once the Action plan has been approved:
 - It should be translated into English and/or Tamil, as appropriate for each LA.
 - Copies of the Action plan in the relevant languages should be made available for public viewing on request (e.g. display in library, LA office, Environmental Education Centre, etc.).
 - The general public should be informed that the Action plan has been approved by gazette or newspaper advertisement in at least one English, Sinhala and Tamil newspaper, including listing the places where it can be viewed.
 - It may also be useful to hold a workshop for all relevant stakeholders, either at this stage, or just before finalising the Action plan.

C.7 Implementation

Once the Action plan has been approved, there is a danger that LA staff may relax, thinking the hard work is over. In fact, preparation of the Action plan is the easy part. The real challenge is in implementing it.

All measures should be implemented according to the Action plan timetable. However, in most cases, successful implementation will require reform and strengthening of the institutional and management arrangements related to SWM, as a key to enabling other action plan measures to be successfully implemented. Hence, these issues should be tackled as early as possible and given a high priority.

C.8 Evaluation

Having an Action plan makes it very easy to know what LA staff should be doing. It also makes it easy to check actual progress against planned measures and targets. Periodic evaluation is recommended, at least once every 3-4 years or near the end of each action plan time period, as the case may be. For some items (e.g. environmental education), annual evaluation may be more appropriate.

Following evaluation, the Action plan may be adjusted to reflect actual versus planned performance, changed circumstances and/or priorities. However, any major changes should be formally approved.

C.9 Sample of Action Plan

A sample of Action Plan is referred to D.6 in Reference.

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* B-1 වගුව : සභා අපද්‍රව්‍ය-සංයුතිය සහ සමීපත නැවත ලබා ගැනීමේ විගවතාවය..... B-1

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* B-11 වගුව : ආරෝග්‍යශාලා අපද්‍රව්‍ය (HCW) වර්ගීකරණය, ඇසිරීම, පිළියම් කිරීම සහ බැහැර කිරීම..... B-37

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* B-16 වගුව : විවිධ පුද්ගලයන් විවිධ අධ්‍යාපන ක්‍රියාකාරකම් පිළිබඳව උනන්දුවක් දැක්වයි..... B-57

* B-17 වගුව : විවිධ හැසිරීම් මට්ටම්..... B-58

* B-18 වගුව : සභා අපද්‍රව්‍ය කළමනාකරණ අධ්‍යාපන අරමුණු හා ප්‍රධාන පණිවුඩයන් B-60

* B-19 වගුව : සභා අපද්‍රව්‍ය කළමනාකරණයේදී අධ්‍යාපනය ලබා දීම සඳහා යොදා ගත හැකි ක්‍රම..... B-64

* B-20 වගුව : පාරිසරික හා සභා අපද්‍රව්‍ය කළමනාකරණ සමීපත..... B-66

* B-21 වගුව : අධ්‍යාපනික මෙවලම්..... B-67

* C-1 වගුව : ක්‍රියාකාරී සැලැස්මේ අයිතමයක් සඳහා උදාහරණයක්..... C-10

* C-2 වගුව : පරිලාභය ගමුළේ ඇති වටිනාකම..... C-12

* C-3 වගුව : ක්‍රියාකාරී සැලැස්ම සංස්කරණය..... C-13

රූප සටහන් ලැයිස්තුව

** B-1 රූපසටහන: පළාත් පාලන ආයතනය නම් බසය -ඔබ කවුද?..... B-13

** B-2 රූපසටහන: ආරෝග්‍යශාලා අපද්‍රව්‍ය බැහැර කිරීමේ වළ..... B-39

** B-3 රූපසටහන : අධ්‍යයනය කළ නගර 76 අපද්‍රව්‍ය එකතු කිරීමේ හා ප්‍රවාහන කිරීමේ එකක විගදුම (2002 මැද)..... B-43

** C-1 රූපසටහන : සැලැස්ම කිරීම, ක්‍රියාත්මක කිරීම-පහුවිටරම් වැඩි දියුණු කිරීමේ වගු..... C-2

** C-2 රූපසටහන : ක්‍රියාකාරී සැලැස්මක් සකස් කිරීමේ ක්‍රියාවලිය..... C-11

මෙම උපදෙශන මාලාව පිළිබඳව

මෙම උපදෙස් මාලාව සැපයීමේ අරමුණ

ආර්ථික වර්ධනයත් සමගම ඔහු අපද්‍රව්‍ය පිළිබඳ ගැටළුව දිනෙන් දිනම උග්‍රවන අතර, තිරිසන් හරහා සංවර්ධනයක් ඇති කිරීමේදී, ඔහු අපද්‍රව්‍ය කළමනාකරණය පිළිබඳ ගැටළුව පළාත් පාලන ආයතනවලට ඇති ප්‍රධානතම ගැටළු අතුරින් එකක් බවට පත්ව ඇත. කෙසේ වෙතත්, මෙම අළුත් විෂයය සම්බන්ධ මනා දැනුමක් හා අත්දැකීමක් ඇති පිරිසගේ හිතයක් පළාත් පාලන ආයතන වැළඳ දක්නට ඇත. ඔහු අපද්‍රව්‍ය කළමනාකරණය සම්බන්ධයෙන් විදේශ රටවල වැළඳ ප්‍රකාශයට පත් කරන ලද විමර්ශන වාර්තාමයක් ශ්‍රී ලංකාවේ ප්‍රාදේශීය තත්ත්වයන්ට ගොදුරු ගත නොහැකිවත් එවාහි පසුබිමේ පවත්නා වෙනස්කම් හේතුවෙනි. එම නිසා අධ්‍යයන කාලය වැළඳ දියත් කෙරුණ නියමු ව්‍යාපෘති අනුසාරයෙන් ලබා ගත් සැබෑ අත්දැකීම් හා පාඩම් උපයෝගී කරගෙන මෙවැනි උපදෙස් මාලාවක් සැකසීමට කාරණා හෙදීය.

මෙම උපදෙස් මාලාවේ අරමුණ පහත සඳහන් පරිදි වේ.

- පළාත් පාලන ආයතනවල සිටින කාර්ය මණ්ඩලයට ඔහු අපද්‍රව්‍ය කළමනාකරණය පිළිබඳ මූලික දැනුමක් ලබා දීම.
- පළාත් පාලන ආයතනවල කාර්ය මණ්ඩලයට ඔ.අ.ක. ප්‍රවර්ධන කටයුතු කිරීම වඩාත් පහසු කරවීම.
- ඔ.අ.ක. ට සම්බන්ධ ප්‍රධාන සැලැස්මක් ඇති කිරීම සඳහා පළාත් පාලන ආයතනවල නිලධාරීන්ට ශාප් මග පෙන්වීම
- විශේෂිත ව්‍යාපෘති සඳහා ශක්‍යතා අධ්‍යයන කිරීම සම්බන්ධයෙන් පළාත් පාලන ආයතනවල නිලධාරීන්ට මග පෙන්වීම

එසේම පළාත් පාලන ආයතනවලට සහය දක්වන ප්‍රාදේශීය උපදෙශකයින්ටද මෙය ප්‍රයෝජනවත් වේ. ඊට අමතරව පළාත් පාලන ආයතන විසින් ඔහු අපද්‍රව්‍ය කළමනාකරණය සඳහා සුදුසු ව්‍යාපෘති සැකසීම සඳහා අවශ්‍ය දේශීය ශාසන ලබා ගැනීමේ අවශ්‍යතාවය සපුරා ගැනීමේදී මෙතුළින් කිසියම් පහසුකමක් ඇති කරයි.

උපදෙස් මාලාවේ ව්‍යුහය

මෙම උපදෙස් මාලාව පහත සඳහන් කර ඇති පරිදි කොටස් හතරකින් යුක්ත වේ.

- A : ඔහු අපද්‍රව්‍ය කළමනාකරණය පිළිබඳ දළ සැකසුම
- B : ඔහු අපද්‍රව්‍ය කළමනාකරණයට බලපාන කරුණු
- C : ඔහු අපද්‍රව්‍ය කළමනාකරණ ක්‍රියාකාරී සැලැස්ම
- D : විමර්ශන

මෙම උපදෙස් මාලාවේ ඉලක්ක කරනු ලබන අපද්‍රව්‍ය

මම උපදෙස් මාලාවෙන් ප්‍රධාන වශයෙන් ඉලක්ක කර ගනු ලබන්නේ නාගරික ඔහු අපද්‍රව්‍ය වේ.

නාගරික ඔහු අපද්‍රව්‍ය සඳහා ඇති තීරවන

ප්‍රජා ක්‍රියාකාරකම්වලින් උත්පාදනය වන ඕනෑම ඔහු අපද්‍රව්‍යයක් නාගරික අපද්‍රව්‍ය යේ සලකනු ලැබේ. එනම් අත්තරාසකර හා ආකාදිත අපද්‍රව්‍ය හැර ගසනාලුන, වාණිජ, ව්‍යාපාර, වෙළෙඳපොළවල හා ආයතනවලින් හා ඉදිකිරීම් හෝ බිඳ දැමීමේදී එක්වන ඕනෑම අපද්‍රව්‍යයක් නාගරික අපද්‍රව්‍ය යේ සලකනු ලැබේ.

A කොටස: ඔබගේ අපද්‍රව්‍ය
කළමනාකරණයේ දළ සැකසුම

A.1 අපද්‍රව්‍යවල ලක්ෂණ

A.1.1 ප්‍රයෝජනවත් අයිතමයන් හා අපද්‍රව්‍ය

භාණ්ඩ (ප්‍රයෝජනවත් අයිතමයන්ගේ ධනාත්මක අගයක් ඇත).

ඔබ කිසියම් භාණ්ඩයක් යම් කෙනෙකුට ලබා දෙන විට එයට මුදලක් ලබා ගත හැක. හේතුව එමගින් එම පුද්ගලයාට කිසියම් ප්‍රතිලාභයක් ලැබෙන බැවිනි. උදා. ඔබේ කැමරාව යහළුවෙකුට දෙන විට එ සඳහා ඔබට මුදලක් ලබා ගත හැක. මන්ද කැමරාවෙන් ඔහුට කිසියම් සතුටක් ලබා දෙන බැවිනි.

නොවටිනා දේ (අපද්‍රව්‍යවලට ඝෘණ අගයක් ඇත).

කෙනෙකුට කසළ වැනි නොවටිනා දෙයක් ලබා දෙන විට එ සඳහා ඔබ කිසියම් මුදලක් ගෙවිය යුතුය. හේතුව ඉන් ඔහුට හිරිහැරයක් මිස ප්‍රතිලාභයක් නොලැබෙන බැවිනි.

මෙම සරල න්‍යාය මිනිසුන් විසින් නිතරම අමතක කරනු ලබන කරුණකි.

A.1.2 සෑම දෙයක්ම ඉතා ඉක්මනින් හෝ පසු කලෙක කසළ බවට පරිවර්තනය වේ.

පුවත්පතක් ගත් විට ඊළඟ දිනයේදී එය කසළ බවට පත් වේ.

දින දුරගතයක් ගත් විට වසරක ඇවෑමෙන් එය කසළ බවට පරිවර්තනය වේ.

බයිසිකලයක් වසර 10ට පසු කසළ ගොඩක් බවට පරිවර්තනය වේ.

සෑම දෙයක්ම ඉතා ඉක්මනින් හෝ පසු කලෙක කසළ බවට පරිවර්තනය වේ.

A.1.3 කිසියම් දෙයක වටිනාකම එය භාවිතා කරන පුද්ගලයා මත රඳා පවතී.

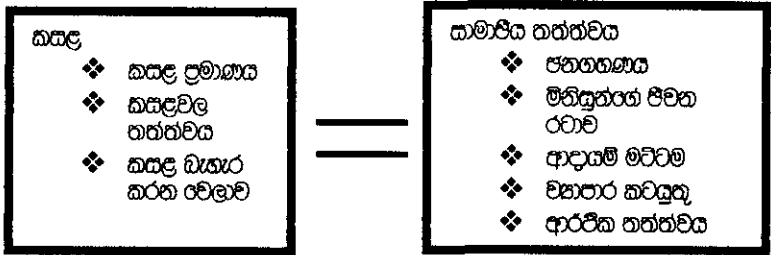
කිසියම් කෙනෙකුට අනවශ්‍ය දෙයක් තවත් කෙනෙකුට අවශ්‍ය විය හැකිය. උදාහරණ: පුවත් පතක් කියවීමෙන් අනතුරුව එය ඔබට වුවමනා නොවුවද, ආහාර වෙළෙඳුසලකට කැම එතීම සඳහා එම පුවත්පත් අවශ්‍ය වේ. මෙම ගුණාංගය නැවත භාවිතය හා ප්‍රතිවිකිකරණය සඳහා අවස්ථාවන් උදා කරයි.

A.1.4 අපද්‍රව්‍ය මගින් සමාජීය තත්ත්වය පරාවර්තනය කර දක්වයි.

කසළ බැහැර කරනු ලබන්නේ මිනිසුන් විසින් හා කඩ සාප්පු වැනි ආයතන මගිනි. එම නිසා කසළ හා සමාජ තත්ත්වය අතර ඇත්තේ ඉතා සමීප සම්බන්ධතාවයකි.

බැහැර කරනු ලබන කසළ ප්‍රමාණය ප්‍රධාන වශයෙන් ආදායම් මට්ටම හා බැඳේ, මිනිසුන් ධනවතුන් බවට පත්වන විට බොහෝ දේ මිළදී ගැනීමට හා පරිභෝජනය කිරීමට පෙළඹෙන අතර, අවසානයේ එ සෑම දෙයක්ම ඉක්මනින් හෝ පසුකාලීනව කසළ ගොඩක් බවට පත් වෙන්නේ බැහැර කරන කසළ ප්‍රමාණයද වැඩි කරමිනි.

සමාජීය වෙනස්කම් සමඟ කසළවල සංයුතියද ඉක්මනින්ම වෙනස් වේ. වසර 10 ට පමණ පුර්ව ජලාස්ථික බොතල් හා මලු වැනි දෑ නොතිබුණද එවා හඳුන්වා දීමත් සමඟම එවැනි කසළ එක්වීම බෙහෙවින්ම වැඩිවිය. එම කරුණ කසළ රඳවා තැබීමේ



පද්ධතියට, එකතු කිරීමේ වාහනවලට, කොම්පෝස්ට් ක්‍රමයට හා බිම් පිරවුමට වෙනස්ක ඇති කිරීම සඳහා බලපානු ලබන සාධකයකි.

A.2 සෞ අපද්‍රව්‍ය කළමනාකරණයේ ලක්ෂණ

A.2.1 සෞ අපද්‍රව්‍ය කළමනාකරණ පද්ධතිය සමාජ තත්ත්වය හා ගැළපිය යුතුවේ.

ජපානය, යුරෝපය හා අමෙරිකාව වැනි රටවල පවතින සෞ අපද්‍රව්‍ය කළමනාකරණ පද්ධතිය භාත්පසීන්ම වෙනස් වන්නේ එහි පවත්නා සමාජ තත්ත්වයද එකිනෙකට වෙනස් වන නිසාවෙනි.

එම කළමනාකරණ පද්ධතියකට එකතුවන ශ්‍රී ලංකාවට ආදේශ කළ නොහැක. මන්ද මෙහි පවත්නා සමාජීය තත්ත්වය එම රටවල හා බැලීමේදී බෙහෙවින්ම වෙනස් වන බැවිනි.

කොළඹ නගරයේ භාවිතා කරන ප්‍රතිවක්‍රීකරණ ක්‍රම ප්‍රාදේශීය නගරවලට යොදා ගත නොහැකිකේ එම නගරවල පවතින සමාජ තත්ත්වයන් කොළඹ නගරයට වඩා වෙනස්වන බැවිනි.

සුදුසු සෞ අපද්‍රව්‍ය කළමනාකරණ පද්ධතියක් සැලසුම් කිරීමේදී පවතින සමාජ මට්ටම අවබෝධ කර ගැනීම ඉතාමත් අත්‍යවශ්‍ය වේ.

A.2.2 සෞ අපද්‍රව්‍ය කළමනාකරණය තුළ ස්ථිර විසඳුමක් නොමැත.

ආර්ථික සංවර්ධනය, නව නිපැයුම් වර්ධනය හා ජනගහණ වර්ධනය යනාදී කරුණු සමගම සමාජීය තත්ත්වය නිතරම වෙනස්වීම්වලට භාජනය වේ. එබැවින් ස.අ.ක. පද්ධතියද සමාජ මට්ටමට ගැළපෙන අයුරින් වෙනස් කළ යුතු වේ.

එ අනුව බලතලීට සෞ අපද්‍රව්‍ය කළමනාකරණය තුළ ස්ථිර විසඳුමක් නොමැත.

A.2.3 මෙහෙයුම් හා නඩත්තු කටයුතු ආයෝජනයට වඩා වැදගත් වේ.

මාර්ග ඉදිකිරීම් ව්‍යාපෘතියක නම් ආයෝජන වියදම ඉතා ඉහළ අතර, මෙහෙයුම් හා නඩත්තු කටයුතු සඳහා වැය වන්නේ සුළු මුදලකි. එහෙත් ස.අ.ක. ව්‍යාපෘතියක මෙහෙයුම් හා නඩත්තු වියදම ඉතා ඉහළ අගයක් ගනී. කසළ එකතු කිරීම සඳහා ඔබ වාහනයක් මිලට ගත්තද, පරිත්‍යාග වශයෙන් ලැබුවද එ සඳහා ඉන්ධන වියදම්, රියදුරු හා කම්කරු වැටුප්, ටයර මාරු කිරීම වැනි අමතර කොටස් සඳහා කිසියම් වියදමක් දැරීමට සිදු වේ. එවිට මෙහෙයුම් හා නඩත්තු වියදම ඉතා විශාල වේ. එසේම කොම්පෝස්ට් ව්‍යාපෘතියක් සඳහා ඔබට ආධාර මුදලක් ලැබුණද, එහි වැඩ කරන සේවකයින්ට වැටුප් ගෙවීම, විදුලි බලය, අමතර කොටස්, ඉතිරි වන ප්‍රතික්ෂේපිත ද්‍රව්‍ය බැහැර කිරීම ආදී කටයුතු සඳහා ඔබ විසින් කිසියම් වියදමක් දැරිය යුතු වේ. එවිට මෙහෙයුම් හා නඩත්තු වියදම ඉතා අධික වේ. මෙවැනි තත්ත්වයක් යටතේ බැලූවිට ස.අ.ක. ව්‍යාපෘතියක් කර්මාන්ත ව්‍යාපෘතියක් හා සමාන වේ.

මෙහෙයුම් හා නඩත්තු කටයුතු කෙරේ අවධානය යොමු වූ හොඳ ව්‍යාපෘති සැලසුමක් ඉතාමත්ම වැදගත් වේ. එසේම ඊට අමතරව, කළමනාකාරිත්ව හැකියාවද ඉතාම වැදගත් බව අවධාරණය කළ යුතු වේ.

A.2.4 මෙය අන්තර්-විෂයයක් ක්ෂේත්‍රයකි.

පහත සඳහන් දැනුම මේ සඳහා අවශ්‍ය වේ.

- ආර්ථික දැනුම
- සමාජ දැනුම

- කළමනාකාරිත්ව දැනුම
- නීතිමය දැනුම
- ඉංජිනේරු දැනුම(සිවිල්, ශාස්ත්‍රික හා රථායතන)
- සන්නිවේදන හා පරිසරය

එම නිසා තනි පුද්ගලයෙකුට මෙය හැකිවිය නොහැක.

ශක්තිමත් ආයතනික පදනමක් එ සඳහා අත්‍යවශ්‍ය වේ. = යහපත් පාලනයක්

A.2.5 සෞභාග්‍ය කළමනාකරණ දෙපාර්තමේන්තුවක් හෝ අංශයක් ක්‍රියාත්මක කිරීම අවශ්‍ය වේ

- සැලසුම් ක්‍රියාවලි
- මෙහෙයුම් හා නඩත්තු ක්‍රියාවලි
- අධීක්ෂණ කටයුතු
- මහජන සබඳතා හා අධ්‍යාපන කටයුතු
- තීරණ ගැනීමේ කටයුතු

බොහෝ පළාත් පාලන ආයතනවලට ඇත්තේ මෙහෙයුම් හා නඩත්තු කටයුතු පමණි. යහපත් පාලනයක් තිබීම අත්‍යවශ්‍ය වේ.

A.2.6 මහජන සහභාගිත්වය අත්‍යවශ්‍ය වේ

- ව්‍යාපෘතියක අවශ්‍යතාවය හඳුනා ගැනීම, එම පහසුකම සැලසුම හා නිර්මාණය කිරීම, ඉදිකිරීම හා ක්‍රියාත්මක කිරීමේ සිට මෙහෙයුම් කටයුතු දක්වා යන ව්‍යාපෘති ක්‍රියාවලියේ සියළුම පියවරයන් තුළ ජනතා සහභාගිත්වයක් තිබිය යුතුය. සෞභාග්‍ය කළමනාකරණයට සම්බන්ධ සියළුම දෘෂ්ටිකෝණයන් දෙස සලකා බලන විට අපද්‍රව්‍ය මූලාශ්‍ර අවම කිරීම, ප්‍රතිවක්‍රීකරණය, එකතු කිරීම හා ප්‍රවාහනය, එසේම හුම් තෝරා ගැනීම, සැලසුම් කිරීම මෙහෙයුම් හා කළමනාකරණ කටයුතු වැනි අවසන් බැහැර කිරීමේ පහසුකම් සම්බන්ධයෙන් වුවද වඩාත් ඵලදායී ලෙස සම්බන්ධවීමේ විභවතාවයන් ජනතාව තුළ තිබීමට පුළුවන. ඊට අමතරව පාරිසරිකමය වශයෙන් මහජනතාව දැනුවත් කිරීමක් කරන්නේ නම් පමණක් ගාස්තු අයකිරීමේ පද්ධතියක් වුවද ක්‍රියාත්මක කිරීමටද පුළුවන. මහජන සහයෝගය සාර්ථකව ලබා ගැනීම සඳහා දිරිගැන්වීම් හා දැනුවත් කිරීම් කළ යුතු අතර ඵලදායී අධ්‍යාපනයක ප්‍රධාන අංගය වන්නේ සහභාගිත්වයයි.
- යථාර්තයට සමීප වැඩසටහන් තුළ සහභාගිවීමෙන් ඵලදායී අධ්‍යාපනයක් ලබා ගත හැකිය. මෙම අරමුණ සඳහා වඩාත් සුදුසු වැඩසටහන වන්නේ ප්‍රතිවක්‍රීකරණයයි. "ප්‍රතිවක්‍රීකරණ බැංකු" වැනි පිරිවැය සාධන වැඩසටහනක් මේ සඳහා නිර්දේශ කළ හැකිය. එවැනි වැඩසටහනක් ආරම්භ කිරීමේදී එම ව්‍යාපෘතින් කරගෙන යාම සඳහා මහජන සහභාගිත්වය එ තුළට ලබා දිය යුතු වේ. එවිට ගලක පෙරළීම සිදුවන ආකාරයෙන් ප්‍රජාවගේ මැදිහත්වීම පණ ගැන්වෙනු ඇත.

A.3 ශ්‍රී ලංකාවේ සෞභාග්‍ය කළමනාකරණයේ වත්මන් ස්වභාවය

A.3.1 සෞභාග්‍ය කළමනාකරණය තුළ ඇති ප්‍රධාන ගැටළු

පහත සඳහන් ගැටළු ශ්‍රී ලංකාව තුළ පුළුල් වශයෙන් දක්නට ලැබේ.

- 1) නගර පුරා පුළුල්ව විසිරුණු කසළ ගොඩවල් තිබීම
- 2) බිම් පිරවුම්වල තත්ත්වය ඉතාම පහත් මට්මටක තිබීම
- 3) ඔහු අපද්‍රව්‍ය කළමනාකරණය වෙනුවෙන් ඉතා අධික වියදමක් දැරීම, පළාත් පාලන ආයතනය මුළු අයවැයෙන් දළ වශයෙන් 20% - 30% අතර ප්‍රමාණයක්
- 4) පළාත් පාලන ආයතනය මුළු සේවක සංඛ්‍යාවෙන්, දළ වශයෙන් 30% පමණ වන අපද්‍රව්‍ය එකතු කිරීමේ කමිකරුවන් විශාල සංඛ්‍යාවක් පාලනය කිරීමේ ඇති අපහසුතාවය
- 5) කමිකරුවන් නිවාඩු ගැනීමේ හා නොපැමිණීමේ සංඛ්‍යාව ඉතා ඉහළ වීම, 10% - 20% අතර
- 6) දැනට පවතින බිම් පිරවුමේ ඉතිරිව ඇති ධාරිතාවය ඉතා ඉහළ වීම
- 7) මිනිසුන්ගෙන් ලැබෙන පැමිණිලි සංඛ්‍යාව අධික වීම
- 8) මහජන සහයෝගය අඩු වීම

මේවායින් බොහොමයක්ම තාක්ෂණික ගැටළු නොවේ.

මේ සියල්ල ආයතනික ගැටළු වේ.

තාක්ෂණයට පමණක් මෙම ගැටළු තනිව විසඳිය නොහැක!

වෙනත් ආකාරයකින් කිවහොත් ආයතනිකමය හා කළමනාකාරිත්වය අතින් වර්ධනයක් ඇති කිරීම තුළින් වැඩිපුර මුදල් වැය නොකර බොහෝ අභිවෘද්ධීන් ළඟා කර ගත හැකිය.

ගහපත් පාලනයක් තිබීම ප්‍රධාන අංශයක් වේ!

A.3.2 මෙම ගැටළුවලට හේතු

පහත සඳහන් කරුණු මෙම ගැටළුවලට මුල් වී ඇත.

- 1) ඔහු අපද්‍රව්‍ය කළමනාකරණයේ වැදගත්කම පිළිබඳ මනා අවබෝධයක් නොමැතිවීම හා පළාත් පාලන ආයතනය තුළ එම අංශය භාරව කටයුතු කරන නිලධාරියා පහළ තරාතිරමක සිටීම.
- 2) විශදුම් පාලන කටයුතු, සැළසුම් කටයුතු, හා මහජන සබඳතා කටයුතු යනාදියේ ඇති අඩු පාඩු හේතුවෙන් දුර්වල ආයතනයක් ඇතිවීම
- 3) පවත්නා ද්‍රව්‍ය හා උපකරණ පුරණ ලෙස යොදා නොගැනීම
- 4) අපද්‍රව්‍ය බැහැර කිරීම සඳහා අවශ්‍ය නීති රීති වල හිඟතාවය
- 5) අනාගත සැළසුම්වල ඇති හිඟතාවය
- 6) බාහිර සම්පත් පුරණ ලෙස යොදා නොගැනීම. බොහෝ පළාත් පාලන ආයතන විසින් දැනට කරනු ලබන්නේ නගර වැසියන් වැනි බාහිර සම්පත් සම්බන්ධ කිරීමක් ගැන නොසිතා, පළාත් පාලන ආයතනය සතුව ඇති මානව සම්පත හා උපකරණ පමණක් යොදා ගෙන පවත්නා ගැටළුවලට විසඳුම් සෙවීමට උත්සාහ දැරීමයි. මෙම හේතුව නිසා ආධාර දෙන ආයතනවලින් උපකරණ සඳහා ඉල්ලුම් කිරීම හා කමිකරුවන් සංඛ්‍යාව වැඩි කිරීම වැනි විසඳුම් මාර්ග කෙරේ ඉතා ලෙහෙසියෙන්ම යොමු වේ.
- 7) ඔහු අපද්‍රව්‍ය කළමනාකරණ ක්‍රියාකාරකම් පිළිබඳ නිසි දැනුමක් නොමැතිවීම
- 8) කළමනාකාරිත්වය පිළිබඳව මනා දැනුමක් නොමැතිවීම
- 9) දේශපාලන මැදිහත්වීම්

10) සමාජීය හා ආර්ථික දෘෂ්ටිකෝණයේ ඇති වැදගත්කම ගැන නොසලකා හැර තාක්ෂණය දෙසට නැඹුරුවීම

11) මූල්‍ය සම්පත්වල ඇති හිඟතාවය

එය පහත සඳහන් කාරණා හා බැඳේ,

ශ්‍රී ලංකාවේ ඝණ අපද්‍රව්‍ය කළමනාකරණය සම්බන්ධයෙන් සලකා බලන කළ ආයතනිකමය හේතු තාක්ෂණිකමය හේතු වලට වඩා වැදගත් බව කිව යුතුව ඇත. එම නිසා ආයතනිකමය වශයෙන් දියුණුවක් ඇති කරන තාක් කල් තාක්ෂණිකමය වශයෙන් පමණක් ඝණ අපද්‍රව්‍ය කළමනාකරණ කටයුතු දියුණු කළ නොහැකිය.

වෙනත් අයුරකින් කිවහොත් පළාත් පාලන ආයතනයේ පාලන තත්ත්වය පිළිබඳ පැහැදිලි ප්‍රතිරූපයක් ඝණ අපද්‍රව්‍ය කළමනාකරණ කටයුතුවල කාර්යක්ෂමතාවය තුළින් මැනවින් පිළිබිඹු කර දක්වයි. එනිසා පාලන තත්ත්වයේ අභිවෘද්ධියක් ඇති කිරීම ඝණ අපද්‍රව්‍ය කළමනාකරණය දියුණු කිරීමෙහිලා බෙහෙවින්ම වැදගත් වේ.

A.3.3 පළාත් පාලන ආයතන සඳහා වැඩි දියුණු කිරීමේ මූලික ක්‍රමෝපායන්

A.3.3.1 වත්මන් තත්ත්වය

ඝණ අපද්‍රව්‍ය කළමනාකරණයේදී පළාත් පාලන ආයතන මුහුණ දෙන ප්‍රධාන ගැටළු දෙකක් ඇත.

පළමු ගැටළුව: අපද්‍රව්‍ය ප්‍රමාණය සීඝ්‍රයෙන් වැඩි වෙමින් පවතී. එයින් කිසිවෙක් ඔබ විසින් වඩ වඩාත් අපද්‍රව්‍ය එකතු කළ යුතු බවයි.

දෙවන ගැටළුව: බිම් පිරවුම්වලදී සැලකිල්ලට ගත යුතු සම්මත පාරිසරික අවශ්‍යතාවයන් වඩාත් දැඩි වෙමින් පවතී. එමනිසා ඔබට අපද්‍රව්‍ය බැහැර කිරීම ගැන තවදුරටත් සුළු කොට තැකිය නොහැක. සිදුවන පාරිසරික හානි අවම කිරීම සඳහා බිම් පිරවුමේ මෙහෙයුම් කටයුතු දියුණු කළ යුතුව ඇත.

මෙම කාරණා දෙකම ඝණ අපද්‍රව්‍ය කළමනාකරණ පිරිවැය වැඩිවීමට හේතු වේ. කෙසේ වෙතත් ඔබට ඝණ අපද්‍රව්‍ය කළමනාකරණය වෙනුවෙන් තවදුරටත් අයවැය වැඩිකළ නොහැකි අතර ඔබට මෙම ආරවුල විසඳීමට සිදුවනු ඇත.

අතීතයේදී දියුණු රටවල් බොහෝමයක්ම මෙම ආරවුලට මුහුණ දී ඇත. එම රටවල් එය විසඳා ගත්තේ කෙසේද? පිළිතුර වන්නේ මහජන සහයෝගයයි.

- දියුණු රටවල එක් පුද්ගලයෙකු විසින් බැහැර කරනු ලබන අපද්‍රව්‍ය ප්‍රමාණය ශ්‍රී ලංකාව හා සසඳා බැලීමේදී ඉතා අධිකය,
- විදී ඇමෙදීම සඳහා සිටින්නේ කම්කරුවන් කිහිප දෙනෙකි.
- කසළ එකතු කිරීමේ වාර ගණනද ශ්‍රී ලංකාවට වඩා අඩුය.

එසේ නමුත් එම රටවල නගර බොහෝමයක්ම පාහේ ඉතා පිරිසිදුය.

ප්‍රධාන හේතු වන්නේ,

- මෙම නගරවල කාර්යක්ෂමතාවයකින් යුතු කසළ එකතු කිරීමේ හා බැහැර කිරීමේ පද්ධතියකට සම්බන්ධ වූ අපද්‍රව්‍ය බැහැර කිරීම සඳහා සුදුසු නීති රීති මාලාවක් තිබීම.

- මහජන සහභාගිත්වය මැනවින් සිදු වේ. සෑම කෙනෙකුම පාහේ මෙම නීති රීති පිළිපැදීමට තරම් ශක්තිමත්ව පීම හා එවා කඩ කිරීම දඬුවම් ලැබිය හැකි වරදක් බව අවබෝධ කර සිටීම.
- පළාත් පාලන ආයතනය විසින් අපද්‍රව්‍ය එකතු කිරීම නියමිත කාලසටහනකට අනුව එහි කටයුතු මැනවින් ක්‍රියාත්මක කරයි.

එ හා සමාන පද්ධතියක් හඳුන්වා දීම අපද්‍රව්‍ය පිළිබඳ කාලීන ගැටළු විසඳීමට බෙහෙවින්ම ඉවහල් වනු ඇත.

අපද්‍රව්‍ය බැහැර කිරීම සඳහා හඳුන්වා දීමට නියමිත නව නීති රීති මගින් නියමිත එකතු කිරීමේ දිනවලදී පමණක් අපද්‍රව්‍ය බැහැර කරන ලෙසට මිනිසුන්ගෙන් ඉල්ලා සිටිනු ලැබේ. වත්මන් ක්‍රමය හා සසඳා බැලීමේදී ජනතාවට මෙය වඩාත් අසීරු ක්‍රමයකි. එමනිසා ශක්තිමත් ජනතා සහයෝගයක් අවශ්‍ය වේ.

සමහර මිනිසුන් විසින් මෙහි නියම අරමුණ තේරුම් නොගෙන පළාත් පාලන ආයතනයට හා එහි සිටින මන්ත්‍රීවරුන්ට නිකරුණේ වොදනා කරනු ලබයි. එවැනි තත්ත්වයක් ඇති වෙයි නම් එවාට ඇහුම් කන් දීමෙන් පමණක් සැහිලකට පත්විය නොහැක. අපද්‍රව්‍ය බැහැර කිරීම සඳහා පළාත් පාලන ආයතනය විසින් මෙවැනි නව නීති රීති ගෙන එමට සිදු වූ හේතු පිළිබඳව කරුණාකර ඔවුන්ට පහදා දෙන්න. නව නීති රීති පද්ධතිය සාර්ථකවීම හෝ අසාර්ථකවීම වැඩි වශයෙන්ම රඳා පවතින්නේ පළාත් පාලන ආයතනයේ සිටින සහිකයින්ගේ සහයෝගය මතය. එය සාර්ථක වූණි නම්, පහත සඳහන් ක්‍රීඩා ඉලක්කයන් එක් පහරකින්ම ඉෂ්ඨ කර ගත හැක.

- ඝණ අපද්‍රව්‍ය කළමනාකරණ විභාග අඩු කර ගැනීම
- බිම් පිරවුම තුළින් සිදුවන පරිසර හානි අවම කර ගැනීම
- අලංකාර නගරයක් නිර්මාණය වීම

A.3.3.2 ඉහළ ප්‍රමුඛතාවයක් දියුණු ක්‍රියාමාර්ග

පළාත් පාලන ආයතනයේ ආයතනිකමය හා සංවිධානමය අංශය සංවර්ධනය කිරීම.

මෙසේ නොකර කිසිම ප්‍රවර්ධන උපාය මාර්ගයක් සාර්ථක කර ගත නොහැක.

වෙනත් ආකාරයකින් කිවහොත්, ආයතනිකමය හා සංවිධානමය වශයෙන් ශක්තිමත් බවක් ඇත්තේ නම්, වැඩිපුර මුදල් වැය නොකර බොහෝ අභිවෘද්ධීන් ප්‍රගා කර ගත හැක.

A.3.3.3 සමාලෝචනය

ඝණ අපද්‍රව්‍ය කළමනාකරණ තත්ත්වය තුළින් පළාත් පාලන ආයතනයේ පාලන ස්වභාවය විදහා දැක්වයි.

අපද්‍රව්‍ය පිළිබඳ පැන නැගෙන ප්‍රශ්න මැඩ පැවැත්වීම සඳහා පළාත් පාලන ආයතනයේ පාලන මට්ටම දියුණු කිරීම අත්‍යවශ්‍ය වේ.

A.3.3.4 නිර්දේශිත ක්‍රියාමාර්ග

1) අභ්‍යන්තර සම්පත් පුරණ වශයෙන් යොදා ගැනීම

- කාර්ය මණ්ඩලය (මහජන සහතික පරීක්ෂක, ප්‍රජා සංවර්ධන සහායක, ප්‍රාදේශීය පරිසර නිලධාරී, පරිපාලකවරු), කම්කරුවන්
- උපකරණ

2) බාහිර සම්පත් පුරණ වශයෙන් යොදා ගැනීම

- නගර වැසියන්
- අනෙකුත් ආයතන හා සංවිධාන
- ව්‍යාපාරික ප්‍රජාව
- පෞද්ගලික අංශය
- රාජ්‍ය නොවන සංවිධාන
- ආධාර දෙන ආයතන

A.3.3.5 උපාය මාර්ග

මහජන සහයෝගය තුළින් අපද්‍රව්‍ය එකතු කිරීමට යන විශදම අඩු කිරීම එසේ හිස විශදමින් ඉතිරි කරන ලද මුදල්, බිම් පිරවුම සඳහා යෙදවීම.

