

APPLICATION OF WASTE MANAGEMENT STRATEGIES OF “PIVITHURU PASAL” PROGRAM AT HOME

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Abstract

Environmental issues are considered as a global concern which needs immediate actions to remedy the adverse effects. One measure taken so far globally is managing waste. Solid waste management has become a major environmental problem in many urban areas of Sri Lanka. Acknowledging this dilemma, the Western province has implemented a school based project in order to change the attitudes of young generation towards waste management, naming it “Pivithuru Pāsāl” program.

The purpose of this study was to find out the success of this program in changing the attitudes of family members at home regarding waste management through their children. The sample of the study comprised of 300 students, 300 parents and 40 teachers from 20 schools in Colombo District. Data was collected through questionnaires and interviews. Findings conclude that (1) scouts/guides are the most promoters of the program (2) parents are aware of the program through their children (3) more than half of the students sample have attended workshops conducted by the waste management Authority in the Western Province, however, most parents are unaware of the workshops conducted by the school of their child (4) both students and parents are satisfied with the support they received to conduct the program in the school (5) the majority of students are agreed that their school administrators played an important role in implementing the program, but teachers are most satisfied with the support received from the school (6) students seem to be well aware of the rules that are implemented by school (7) almost half of the schools have a system to sort waste in classrooms. On the other hand, (1) waste management at home seems to be very successful as waste at home is very well sorted (2) parents are especially glad about the home environment that is improved by the knowledge gained through this program (3) students seem to have changed their attitudes regarding environment protection which had made them to protest if anyone dumps garbage in inappropriate places.

Keywords: Waste management, Environmental issues, Pivithuru Pāsāl Program

1. Introduction

Environmental issues are defined as any negative or adverse effects on a natural resources caused by human behavior, which in turn adversely affects human life (Licy *et al*, 2013). As such, environmental issues are considered as a global concern which needs immediate actions to remedy the adverse effects. One measure taken so far globally is managing waste. Although, it is difficult to find a permanent solution many countries all over the world have taken productive measures to manage waste, such as making people aware of the dire effects and attitudinal changes. For example, the British government introduced the 3R concept based on 2010 to 2015 government policy: Waste and Recycling, which is Reduce, Reuse, and Recycle at school level in order to change the attitudes of both students and parents. Similarly, Zagozewski . (2011) suggests a diverse group of activities for waste management, such as reduction, recycling, segregation, modification, treatment and disposal.

Sri Lanka also has taken positive measures in waste management in the recent past such as waste collection by local authorities which are segregated and managed in a reasonably effective manner (Bandara, 2011). However, solid waste management is a somewhat neglected item in the agenda of economic development. For this reason, solid waste management has become a major environmental and social problem in many urban areas of Sri Lanka and is especially problematic in the Western Province. There are many incidents which proves this mismanagement. In 2017 sixteen people have died, many people were injured and over 100 houses were destroyed or damaged due to a collapse of a section of the Meethotamulla garbage dumping site in Colombo (nytimes.com, 2020). This shows that even though, there are government implemented projects the society had failed to be sensitive of the environments that they live stressing the need for an understanding of their responsibility in waste management. Acknowledging this dilemma, the Western province has implemented a school based project in order to change the attitudes of young

generation towards waste management, naming it as “*Pivithuru Pāsāl* (pure schools)” program. It focuses on educating school children about reuse, recycling and re-incarnation of generating waste generation according to the national policies and the waste management methodologies, including two main objectives, which are (1) take steps to minimize waste in the school and impose a legal system on waste management in schools (2) sorting and separating of waste.

By 2019 in the western province, 463 schools have adopted this project. The future goals of this project is to introduce this project to 25 schools annually, do feasibility studies to identify weak areas and strengthen them, teacher training, motivation and monitoring at school level. However, after 12 years of implementation, this project has not reached its goal as assumed. For example, still there are lapses in rules and regulations regarding waste management, schools have not prioritized waste management at school, insufficient assistance from school academic staff and lack of waste management discipline among students. Considering all these a study was conducted to ascertain the success of this program at home level.

2. Research Methodology

Main objective of this study is to find out the success of the said program in changing the attitudes of family members at home regarding waste management through students. Following are the sub-objectives of the study.

1. Identify successful approaches used in schools to educate students on waste management techniques
2. Find out the various modes of how that knowledge is utilized at home environment
3. Identify the strengths and weaknesses of the program in utilizing the techniques at home environment

Mixed research method was utilized in the study to attain the above objectives. Questionnaires were given to 300 students and 300 parents (or there caretaker) from 20 schools which have implemented the “*Pivithuru Pāsāl*” program in Colombo district. In addition, face to face interviews were held with 20 teachers who are the coordinators of the program. Data analysis was done using both quantitative and qualitative methods.

3. Significant findings

3.1 Awareness of the program

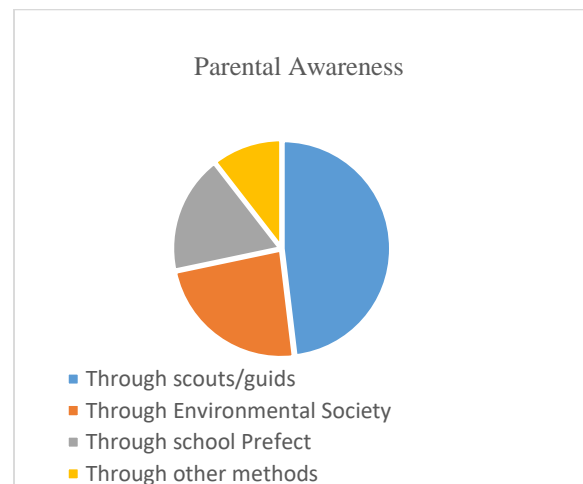
The results revealed that most of the students from 20 schools are aware of the “*Pivithuru Pāsāl*” program through various modes which is a positive aspect as

the main objective would have been lost if the awareness is not up to a certain standard. Following analysis reveals this point. Table 1 shows that scouts/guides (48.1%) are the most promoters of the program followed by the members of the Environment Society (23.6%), school prefects (17.8%) and class-teachers and notice-boards (10.5%).

Table 1. Awareness of the “*Pivithuru Pāsāl*” program

Mode	Frequency	%
Through scouts/guides	144	48.1
Through Environmental Society	71	23.6
Through school Prefect	53	17.8
Through other methods	32	10.5
Total	300	100

Graph 1 shows that parents are also aware of the program through their child (71.7%), the class teacher (55.4%) and other modes such as noticing the environment of the school when they visit the school (30.2%) and school projects through principal (10.4%).



Graph 1: Parental Awareness

A focus group interview in addition shows that most of the teachers have volunteered to participate in the program and believed in the importance of the program for both school and home.

“I am much concerned about the beauty of the environment. So I voluntarily participated in this”

“If we want to inculcate a sense of patriotism we should make students to think of their school as their own. So I volunteered”

“It would be nice to have children teaching their parents of how to sort waste at home”

3.2 Participation in awareness programs

This program conducted by the Waste management authority in Western Province have had several workshops related to waste management. The data in Table 2 shows that the student participation rate for the workshops and parents awareness of the workshops is unsatisfactory.

Table 2: Student participation rate and parents awareness of the workshops

Questions	Yes	%	No	%
Students				
Have you attended workshops conducted by Waste management Authority?	160	53.3	140	46.7
Parent				
Are you aware of the waste management workshops in your child school?	108	36.0	192	64.0

More than 50% of students have attended workshops conducted by the Waste management Authority in Western Province with over 45 % of students never attending these. Most parents (64%) are therefore unaware of the waste management workshops conducted by the school of their child. However, most of the teachers had attended the workshops conducted by their schools. These results show that both students and parents have become aware of the program mostly through school, but not through these programs. This concludes that the relevant authorities should rethink of different methods of attracting the stake holders for such programs.

3.3 Support from school

When asked about the school support for students and parents, more than half (52%) of students are satisfied with the support they received to conduct the program in the school, while the other half (45%) of students are not satisfied with the assistance they received from school to conduct the program. The majority of students (72.1%) perceived that their school administrators played an important role in implementing the program (see Table 3). On the other hand, majority of the teachers are not satisfied with the support they receive from the school.

“I don’t find the administrators quite being helpful in this regard”

“When I proposed certain alterations, I was not heard”

Therefore, this presents the need for a mechanism to support to conduct the program in a successful manner. As such, the mere awareness of the program seems not sufficient for the successful implementation of the program.

Table 3. Percentages analysis of school support for the program

Question	Yes		No		No	
	No.	%	No.	%	No.	%
Are you satisfied with the support you received from the school for “Pivithuru Pasal” Program?	156	52.0	144	48.0	300	100
Do you think that school administrators have important role to play in the implementation of “Pivithuru Pasal” program?	216	72.1	84	27.9	300	100

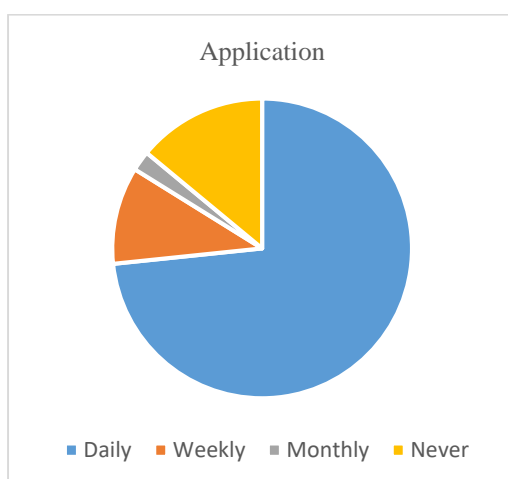
3.4 School-wise approaches

When considering the approaches that are used by schools, the most useful approach seems to be introducing rules for waste management. Students (81.4%) seem to be well aware of the rules that are implemented by the school and also they (70.3%) have a clear knowledge about those rules. Table 4 shows that the students have mechanisms to segregate waste in classrooms and their homes. Evidence shows around 76 percent of the students have gained this knowledge and that they (70%) are capable of transferring this knowledge to their families. Mostly, from the point of view of students (86%), waste materials are collected according to schedule in the classroom. However, unfortunately only 42% students segregate the house hold waste.

Table 4: Systems to segregate waste in classrooms and homes

Question	Yes		No		Total	
	No.	%	No.	%	No.	%
Have you got any knowledge about the principles of waste management through the program?	228	76	72	24	300	100
Have you transferred this knowledge to your family?	201	70	90	30	300	100
Do you have a system to segregate waste in classroom?	258	86	42	14	300	100
Do you segregate household waste?	126	42	174	58	300	100

Parents who have gained knowledge from their children uses the knowledge daily (71.3%), weekly (10.2%), monthly (2.1%) and never (13.6%) (See Graph 2). On the other hand, majority of school teachers seems not to be using the knowledge at home.



Graph 2: Application of the waste management at home by parents

3.5 Satisfaction about the program

Answers of open ended questions of students and parents and teachers from interviews reveal that this program has beautified the school environment and

that it helps to have a conducive environment for teaching learning. Some parents are especially glad about the home environment that is improved by the knowledge gained through this program. Students seem to have changed their attitudes regarding environment protection which had made them to protest if anyone is dumping garbage in inappropriate places. Parents also seem to be contempt with this attitudinal change in their children. However, there seems to be some methods used by schools which are not included in the program which seem to be making an adverse effect on the program. For example students are required to carry classroom garbage to their homes as a measure to reduce school garbage. This seems to be very unpopular among students and parents.

4. Discussion

The “*Pivithuru Pasal*” program had introduced an environmental education program to develop knowledge, attitudes, and practices of school students, especially on solid waste management and recycling in the Western province, Sri Lanka. In general, the study found out that majority of students are aware of the program, more teaches have volunteered to participate in the program and that the majority of parents are aware of this program through their children. This suggests that most students, at the time of the study were somewhat aware of the importance of the waste management program and that they have acknowledged their parents about the program. It is revealed that they exhibit a good attitude towards waste management and recycling.

This study found out that the most of the students are satisfied with the support they received to conduct the program in the school. However, teachers are not satisfied of the help of schools to implement the program. And the same time most parents are unaware of the waste management workshops conducted by the school of their child. Therefore, it presents the need to develop a proper communication system with parents and schools to transfer this knowledge to society. Similarly, Licy *et al* (2013) says that the awareness program of waste management is gently needed for parents. They also suggested this knowledge can be given through parent-teacher meetings or in a community-based program. Therefore, the education department of the country can implement an environmental education program to the teachers at all levels of education.

The very important finding of this research is that students seem to be well aware and clear of the rules that are implemented by the school and that majority of students have transferred this knowledge to their families. The study also revealed that almost three quarters of parents are using the knowledge daily that they gained through their children.

The present study shows that students, parents, and teachers felt that through this program the school environment is beautiful now and that it helps to have a conducive environment for teaching-learning. Parents are especially glad about the home environment that is improved by the knowledge gained through this program and also seem to be content with this attitudinal change in their children. Eveth *et al* (2016) suggested that Environmental education is recommended, with emphasis on issues regarding solid waste management and recycling, should be included in the basic curriculum or certain course works of college students, to expand their knowledge and attitude towards improved practices on solid waste management.

The main issue of the program is the lack of monitoring of the implementation of the program both at home and school. Therefore, the knowledge gained is not used in any instance. Similarly, a study conducted in Malaysia (adopted from Shahzadi *et al* (2018) showed that students have negative attitudes towards household waste disposal. Shahzadi *et al*, (2018) that the practices of community reported that they generate three bags of garbage per week most of them do not use bins for waste collection or disposal.

5. Conclusion and further recommendation

In conclusion “Pivithuru Pasal” program of waste management is crucially needed for students and parents. The study found that the knowledge given by the program helped to change the attitudes of students and parents. However, it need a proper communication system between school and parents and a proper inspection system for real practice. For this purpose, this program can be recommend to other provinces in the country to create a beautiful and healthy school and home environment.

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