International Journal of Trend in Scientific Research and Development (IJTSRD)
International Open Access Journal | www.ijtsrd.com
ISSN No: 2456 - 6470 | Volume - 3 | Issue – 1 | Nov – Dec 2018

Perceptions of Students on Solid Waste Management in Selected Barangays in Catubig, Northern Samar

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ABSTRACT

This study aimed to find out the Perceptions of student. This study used a descriptive type of research. Respondents of this study were selected students in Catubig, Northern Samar. This study used the IPO Model the input, process and output model wherein, the input describes the profile of the respondents in terms of: age, sex, and year level. Whereas, the process was on the perceptions of selected students on solid waste management, and the output was the interventions made by the students to minimize the improper solid waste management. The instrument used an adapted survey questionnaire. However, there are modifications made to suit the appropriateness of the instrument for the respondents. It composed two (2) parts: Part–I profile of the respondents; Part–II perceptions of selected students on solid waste management. Part-III was the interventions made by students to minimize the improper solid waste management. The research instrument used a ready-made questionnaire. Hence, there was no need for further validation. It used the following statistical tools to interpret the data involve in this study: Frequency Counts and percentages, to interpret the profile of the respondents; Weighted Mean, to determine the perception of selected students on solid waste management; and T-test, to determine the significant relationship on the perceptions of the respondents on solid waste management. Based on the study conducted, the researcher concluded the following: That solid waste management is very essential in people's lives, that it should be taken seriously making the environment cleaner and safer to live in; That the Local Government officials must enforce strict implementation on policies on matters of awareness on proper solid management; That most of the respondents' ages 21 years old and above, females, and college level; That respondents perceptions focused on mostly serious and serious problem on solid management in terms of generation, processing, collection, disposal, and budget; That interventions made by the students where they conducted a survey and find out that there is a need of information dissemination by conducting a seminar or forum on solid waste management to minimize improper solid waste disposal. Further, researchers recommended the following: The Local Government officials must enforce strict implementation on policies on matters of awareness on proper solid management. There should be a partnership with the Local Government, Non-government, and schools in implementing policies regarding proper solid management; There should be an in depth study on solid waste management; There should be seminar and orientation regarding solid waste management; There should be close monitoring and supervision on policies implemented regarding solid waste management. Solid waste is a serious matter where people should be aware of. It is for this reason that the researchers were determined to conduct such, hoping that this would contribute to a little improvement in matters of conserving the environment for the sake of the future generation. Finally, the researchers hope that this will be given attention to nurture the resources that is present in the community.

***Key Words**: perceptions, solid waste management, implementation, awareness*

1. INTRODUCTION

Solid waste management is an essential service in any society. Solid waste refers to the range of garbage materials—arising from animal and human activities—that are discarded as unwanted and useless. Solid waste is generated from industrial, residential, and commercial activities in a given area, and may be handled in a variety of ways. As such,

landfills are typically classified as sanitary, municipal, construction and demolition, or industrial waste sites. Waste can be categorized based on material, such as plastic, paper, glass, metal, and organic waste. Categorization may also be based on hazard potential, including radioactive, flammable, infectious, toxic, or non-toxic wastes. Categories may also pertain to the origin of the waste, whether industrial, domestic, commercial, institutional, or construction and demolition. Regardless of the origin, content, or hazard potential, solid waste must be managed systematically to ensure environmental best practices. As solid waste management is a critical aspect of environmental hygiene, it must be incorporated into environmental planning. Adopting segregation of waste at source can be beneficial, the dry refuse generated can be recycled and save public money of transporting it to the dump yards. Wet waste can be used for making manure by disposal waste at source that is at their premises or zone wise. Composting and installing of biogas system are the ways in which garbage disposal can be done. Neller & Neller (2015), states that the indiscriminate disposal of solid wastes is one major threat to environmental and human well-being. Findings revealed that effects of improper disposal of garbage results to an epidemic causing the people in the community to suffer. Atienza, 2008 cited in Barloa, Lapie, & De la Cruz (2016) Experts attribute the worsening problem on solid wastes dumping to the increasing human population and rapid industrialization. Solid wastes are any rubbish or refuse generated from undesirable or useless materials or substances, as inevitable by-product of human activities.[1] Solid wastes can be classified as biodegradable, recyclable, residual, and special according to the composition. They are produced from various sources such as households, commercial establishments, industries, and institutions. Solid waste is a serious matter where people should be aware of. It is for this reason that the researchers were determined to conduct such, hoping that this would contribute to a little improvement in matters of conserving the environment for the sake of the future generation. Based on the previous studies, Catubig is experiencing problems in proper garbage disposal, the researchers hope that this will be given attention to nurture the resources that is present in the community.

2. Objectives of the Study

Generally, the primary goal of solid waste management is reducing and eliminating adverse impacts of waste materials on human health and the environment to support economic development and superior quality of life of the people of Catubig, Northern Samar.

Specifically, this study aimed to find out the following:

1. Identify the profile of the respondents in terms of:
1.1. Age
1.2. Sex
1.3. grade level

2. Determine the perception of respondents on solid waste management program in the community in terms of:
2.1. Generation,
2.2. Collection,
2.3. Processing,
2.4. Disposal,
2.5. Budget

3. Determine the interventions made by the students and community to minimize improper solid waste disposal.

3. Methodology

Locale of the Study

This study was conducted in Catubig Northern Samar. The municipality is known to be a rice granary of Northern Samar. It is a third income class municipality with forty seven (47) barangays. Catubig is one of the twenty four (24) municipality of Northern Samar. Most of the people engage in farming like making copra, abaca & planting other crops which sustained the needs of every family. Residents nearby the river engage in fishing and collecting be (clam) which serves as their way to sustain the needs of their family.

Research Design

The research design used in this study used descriptive type of research. It was considered descriptive in the sense that this study aims to describe the profile of the respondents. Moreover, it is considered descriptive for the reason that it tried to find out the perception of the selected students on solid waste management, and the interventions made by students to minimize the improper solid waste management.

Respondents of the Study

Respondents of this study were selected students in Catubig, Northern Samar. There will be fifty (50) respondents in college, fifty (50) grade-10, and fifty (50) grade-6 students. The respondents are enrolled for the school year 2019-2020.

This study used the IPO Model the input, process and output model wherein, the input describes the profile of the respondents in terms of: age, sex, and year level. Whereas, the process was on the perceptions of selected students on solid waste management, and the output was the interventions made by the students to minimize the improper solid waste management.

Research Instrument

The instrument used an adapted survey questionnaire. However, there are modifications made to suit the appropriateness of the instrument for the respondents. It is compose of two (2) parts: Part–I profile of the respondents; Part–II perceptions of selected students on solid waste management. Part-III was the interventions made by students to minimize the improper solid waste management.

Validation of Research Instrument

The research instrument used a ready-made questionnaire. Hence, there is no need for further validation of the instrument.

Data Gathering Procedure

The researcher asked permission from their adviser to give a letter to the respective school heads of the respondents to conduct a survey about the perceptions of selected students on solid waste management.

Upon the approval of the school heads, the researchers personally administered the survey by using a survey questionnaire to be answered by the respondents.

Questionnaires were be retrieved once respondents finished answering the questionnaire.

Statistical Treatment of Data

The researcher made used of the following statistical tools to interpret the data involve in this study.

Frequency Counts and percentages, to interpret the profile of the respondents.

Weighted Mean, to determine the perception of selected students on solid waste management.

T-test, to determine the significant relationship on the perceptions of the respondents on solid waste management.

4. Results and Discussion

Table 1.1 shows the distribution of the respondents in terms of age. The data show that out 50 respondents, 12 or 24% had an age ranging from 11 years old to 20 years old, and 13 or 26 % had age ranging from 21 years old and above.

TABLE 1.1

Profile	Frequency	Percentage
Age		
11 – 15	12	24.00
16 – 20	12	24.00
21 – 25	13	26.00
26 - Above	13	26.00
TOTAL	**50**	**100.00**

Sex

Table 1.2 shows the distribution of the respondents in terms of sex. The data show that out 50 respondents, 20 or 40% of the respondents are males and 30 or 60% are females.

TABLE 1.2

Profile	Frequency	Percentage
Sex		
Male	**20**	40.00
Female	**30**	60.00
TOTAL	**50**	**100.00**

Year Level

Table 1.3 shows the distribution of the respondents in terms of year level. The data show that out 50 respondents, 24 or 48% are college levels, 13 or 26% are grade 6 and grade 10. This indicates that most of the respondents are college level.

TABLE 1.3

Profile	Frequency	Percentage
Year Level		
College Level	**24**	48.00
Grade 10	**13**	26.00
Grade 6	**13**	26.00
TOTAL	**50**	**100.00**

Table 2.1 shows the perception of respondents on solid waste management program in the community in terms of generation. The data shows that the mean of the respondents' perception on solid waste management in terms of generation is 2.558 which is interpreted as "serious". This indicates that there is a serious problem of solid waste management program in the community in terms of generation.

Looking at the items, the highest mean is on the statement "Lack of trained personnel" and considered as moderately serious problem of solid waste management in terms of generation

TABLE 2.1 Perception of Respondents' on Solid Waste Management

	MEAN	INTERPRETATION
Generation		
Lack of trained personnel	3.36	Moderately Serious
Lack of policy, legislation in implementation of proper segregation	2.51	Serious
Difficult to locate and acquire landfill use	2.15	Serious
Lack of enforcement, measure and capability	2.45	Serious
Lack of planning (Short, medium, and long term plan)	2.32	Serious

Table 2.2 shows the perception of respondents on solid waste management program in the community in terms of collection. The data shows that the mean of the respondents' perception on solid waste management in terms of collection is 3.4 which is interpreted as "mostly serious". This indicates that uncontrolled use of packaging materials and difficult to obtain cover material was considered as mostly serious problem on solid waste management.

TABLE 2.2 Perception of Respondents' on Solid Waste Management

	MEAN	INTERPRETATION
Collection		
1. Uncontrolled use of packaging material	3.45	Mostly Serious
2. Difficult to obtain cover material	3.35	Moderately Serious

Table 2.3 shows the perception of respondents on solid waste management program in the community in terms of processing. The data shows that the mean of the respondents' perception on solid waste management in terms of processing is 2.94 which is interpreted as "moderately serious". This indicates that there is a moderately serious problem of solid waste management program in the community in terms of processing.

Out of the four (4) indicators, two indicators were rated "serious", one (1) was rated "moderately serious" and one (1) was rated "mostly serious". The highest mean was on the item "Lack of information dissemination when to collect wastes". This means that collection of waste is one of the mostly serious problem on solid waste management in terms of processing.

TABLE 2.3 Perception of Respondents' on Solid Waste Management

	MEAN	INTERPRETATION
Processing		
1. No proper institutional set-up for solid waste management service.	2.45	Serious
2. Poor response to waste minimization (re-use and recycling)	3.35	Moderately serious
3. Lack of program for solid waste disposal	2.50	Serious
4. Lack of information/dissemination when to collect wastes	3.45	Mostly serious

Table 2.4 shows the perception of respondents on solid waste management program in the community in terms of disposal. The data shows that the mean of the respondents' perception on solid waste management in terms of disposal is 2.685 which is interpreted as "moderately serious". This indicates that there is a moderately serious problem of solid waste management program in the community in terms of disposal.

Out of the four (4) indicators, two indicators were rated "serious", one (1) was rated "moderately serious" and one (1) was rated "mostly serious". The highest mean was on the item "Lack of control of hazardous waste". This means that disposal of waste is considered as moderately serious problem on solid waste management.

TABLE 2.4 Perception of Respondents' on Solid Waste Management

	MEAN	INTERPRETATION
Disposal		
1. Poor public cooperation	1.85	Serious
2. Poor cooperation by agencies, and other departments	3.0	Moderately Serious
3. Lack of hazardous control wastes	3.41	Mostly Serious
4. Uncontrolled increase of population in the community	2.48	Serious

Table 2.5 shows the perception of respondents on solid waste management program in the community in terms of budget. The data shows that the mean of the respondents' perception on solid waste management in terms of budget is 1.906 which is interpreted as "serious". This indicates that there is a serious problem of solid waste management program in the community in terms of budget.

Out of the five (5) indicators, two indicators were rated "serious", while three (3) were rated "not serious".

The highest mean was on the item "Old vehicle/ equipment frequent breakdown.

TABLE 2.5 Perception of Respondents' on Solid Waste Management

	MEAN	INTERPRETATION
Budget		
1. Lack of financial resources	1.65	Not Serious
2. Old vehicle equipment frequent breakdown	2.52	Serious
3. Lack of capability to maintain repair vehicle /equipment	1.98	Serious
4. Lack of qualified private garbage collector	1.70	Not Serious
5. No standardization of vehicle equipment	1.68	Not Serious

Table 3 shows the distribution of the respondents in terms of interventions made by the students and community to minimize improper solid waste disposal. The data show that out 50 respondents, to encourage waste reduction measures to be put in place. 14 or 28% answered "conduct seminar and provide MRF (Material Recovery Facility), 7 or 14% answered "use the 5 R's (reduce, recycle, recover, reused, and repair) and 15 or 30% answered "conduct formal forum on solid waste management." This indicates that there is a need of information dissemination by conducting a seminar or forum on solid waste management to minimize improper solid waste disposal.

TABLE 3 Interventions Made by the Students and Community to Minimize Improper Solid Waste Disposal

	Frequency	Percentage
Conduct seminar	14	28.00
Provide MRF	14	28.00
Use the 5 R's (Reduce, Recycle, Recover, Reused, and Repair	7	14.00
Conduct formal forum on solid waste management	15	30.00
TOTAL	**50**	**100.00**

5. Conclusion

Based on the study conducted, the researcher concluded the following:

1. That solid waste management is very essential in people's lives, that it should be taken seriously making the environment cleaner and safer to live in.

2. That the Local Government officials must enforce strict implementation on policies on matters of awareness on proper solid management.
3. That most of the respondents' ages 21 years old and above, females, and college level.
4. That respondents perceptions focused on mostly serious and serious problem on solid management in terms of generation, processing, collection, disposal, and budget.
5. That interventions made by the students where they conducted a survey and find out that there is a need of information dissemination by conducting a seminar or forum on solid waste management to minimize improper solid waste disposal.

6. Recommendation

The researchers recommended the following:

1. The Local Government officials must enforce strict implementation on policies on matters of awareness on proper solid management.
2. There should be a partnership with the Local Government, Non-government, and schools in implementing policies regarding proper solid management.
3. There should be an in depth study on solid waste management.
4. There should be seminar and orientation regarding solid waste management.
5. There should be close monitoring and supervision on policies implemented regarding solid waste management.

7. References

The findings of the study intend to fill in the gaps in the literature on solid waste management in terms of fostering a better understanding, forming ethical attitudes, and promoting environment-friendly practices towards a safer, healthier, and more sustainable university campus and the choice is made on available options that will guarantee the greatest satisfaction or profit to the individual. Meaning to say, individual human actions may also be determined by self-interest based on the pleasure and profit outcomes of doing or not doing. Thus, the theory implies that proper waste management may not always be altruistic rather it may be influenced by weighing its cost and benefits.

Relatedly, solid waste management awareness is an environmental campaign which aims not only to educate people on the consequence of creating and managing waste but also to form in them the right attitude which will consequently motivate them to do desirable practices for waste disposal at home, in school, and elsewhere. Several studies have been conducted which linked responsible environmental behavior with knowledge, attitudes, verbal commitment, and sense of responsibility of the person.

Liou, Hines, Hugerford & Tomera, (2006); socio-demography, political attitudes, environmental knowledge and concern combined (Olli, Grendstad & Wollebaek, 2001). Given the context, education is vital to the solid waste management program. Educating people to waste management will help them understand of the indiscriminate disposal of waste to the environment and human health and empower them to act accordingly (Chakraborti, Hussam & Alauddin, 2003). Along similar lines, environmental programs must be integral to participation of members of the academic community is important in the implementation of its institutional programs for environmental protection and sustainable development.

Desa, Kadir, & Yusooff (2012) though recycling is the most visible, measurable, and enforceable environmental practice in the campus, the educational institutions must engage in waste reduction and reuse as effective ways of reducing the impact of environmental problems. Cognizant of the significant role of education in solid waste management, R.A. 9003 mandates Philippine learning institutions to integrate into their educational activities the awareness and practices of solid waste management for the environmental education of all members of the academic community.

Ifegbesan (2010) the integration of waste management concepts and themes through environmental education in school at all levels will improve the understanding of the members of the academic community on proper waste management and more likely change their seemingly unfriendly waste management behavior and practices. A study by Desa, Kadir & Yusooff (2012) that assessed the attitudes, behavior, and practices towards the solid waste management of 591 first year students from UKM, Bangi Campus showed that students have a high level of behavior and practices regarding solid waste management program. However, the researchers noted that waste education and awareness strategy are still needed to develop more students' awareness and attitude towards managing solid waste to reduce the impact of the waste problem in the campus.