The Palawan Scientist
Vol.3, No. 1. pp.47-53, 2007

ISSN No. 1656-4707

Household Solid Waste of Aborlan, Municipality, Palawan

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ABSTRACT

The household solid waste including the family profile of Aborlan municipality was studied from August to December 1998 to determine the type and the approximate quantity of waste it generated, and its solid waste disposal practices. Households of Aborlan commonly generated plastics, papers, kitchen refuse, cans, bottles, and batteries at a total weight of 10,339.7 kg within 5 months. Barangays generated more waste than subdivisions since its population density was high, but on a per household basis, subdivisions generated higher quantity than barangays. Although families differ in economic status, the type of waste they generate were the same. The quantity of waste however, was greatly influenced by the economic status of the family.

Key words: Solid waste, biodegradable, non-biodegradable, Aborlan

INTRODUCTION

An extremely serious problem facing the Philippines and other affluent countries is the accumulation of solid waste in open dumps or inadequate landfills. These dumps are not just aesthetic disasters; if they are burned, they contribute to air pollution, water percolating through them pollutes ground water supplies, and they serve as breeding ground for annoying and disease-bearing organisms (Ehrlich and Ehrlich, 1970).

The collection and disposal of solid waste are activities, which should be optimized with respect to economic, public health, and the environment. Historically, solid waste management has been relegated to the lowest levels of responsibility. As a result, most practices are the result of cut and try techniques handed down from one generation to another. Moreover, population growth aggravated this problem in the sense that as more waste are generated, more houses are built, thus reducing the availability of dumping sites. In our country, waste disposal is a classic problem faced by many cities.

Aborlan is a developing municipality thus, solid waste disposal must be properly planned to avoid the problems experienced by big cities and municipalities. However, in order to decide the best solid waste disposal system in a certain municipality, basic data such as the type and quantity of each solid waste, the

disposal method used by the people, *etc.* are needed. Thus, this study was conducted with the following objectives: 1) to determine the type and the quantity of solid waste generated from the household of Aborlan municipality; and 2) to document the solid waste disposal method done by the households of Aborlan.

METHODOLOGY

The Respondents

Ten percent of the total households from Siose, Bacosa, and Pioneer subdivisions and representative barangays, *i.e.* Iraan, Cabigaan, Poblacion, and Plaridel were randomly selected to serve as respondents. Only housewives were interviewed using a prepared questionnaire.

Collection of Solid Wastes

Solid wastes were collected from the house of every respondent only after the conduct of the interview to avoid bias in their answers. This was done by placing pre-labeled polyethylene bags (*i.e.*, for papers, for cans, for bottles, for kitchen refuse, etc.) as waste containers. Pre-labeling of waste containers was done to facilitate easy identification of waste components. Wastes were collected 2 times a month for five (5) months.

The collected solid wastes were brought to the municipal dumping site and weighed separately then subsequently disposed of at the dumping area (Fig. 1).

RESULTS AND DISCUSSION

All places surveyed commonly generate plastics, kitchen refuse, papers and other solid wastes except barangay Cabigaan, which did not generate bottles (Table 1).

Even though some of these wastes were reusable and /or recyclable, these were not reused mainly because wastes were not segregated. The housewives justified that waste segregation is time consuming and inconvenient and many containers are needed in the process. They added that there is no junk shop and material recycling facility in Aborlan, thus waste segregation is useless.

Figure 1. The dumping site of Aborlan Municipality

Table 1. Types of household solid wastes generated in Aborlan municipality

Place	Batteries	Papers	Cans	Plastics	Kitchen refuse	Bottles
Brgy Iraan	√	√	√	√	√	√
Brgy. Cabigaan	√	√	√	√	√	√
Brgy. Plaridel	√	√	√	√	√	√
Poblacion	√	√	√	√	√	√
Pioneer Subd.	√	√	√	√	√	√
Siose Subd.	√	√	√	√	√	√
Bacosa Subd.	√	√	√	√	√	√

Since barangays had higher population than subdivisions, the total quantity of wastes it generated was larger than subdivisions (Fig. 2). However, when average weight was considered each household in the barangay generated fewer wastes than in subdivisions (Fig. 3). Such is attributed to the economic status of the households because families in subdivisions had higher income than in barangays (Table 2). The quantity of wastes therefore, is dependent on the economic status of the people. The New Book of Popular Science (1989) reinforced that the USA, which is the most affluent country, is also the most effluent.

Plastics ranked second to kitchen refuse in quantity (Fig. 4) implying that Aborlan is a contributor of shaping the world into a plastic society.

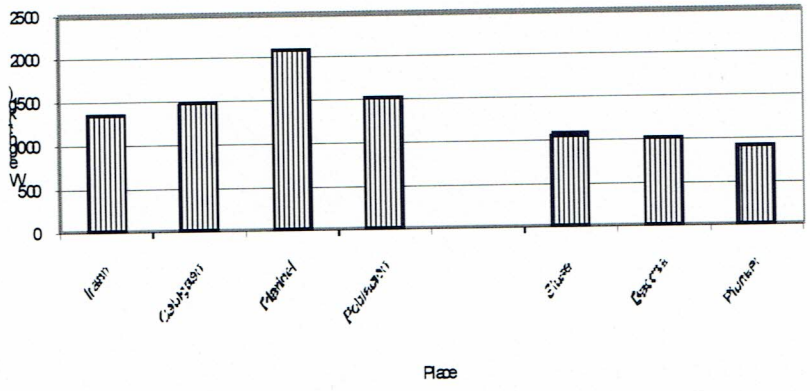

Figure 2. Total weight of solid wastes generated by the households of Aborlan municipality within 5 months

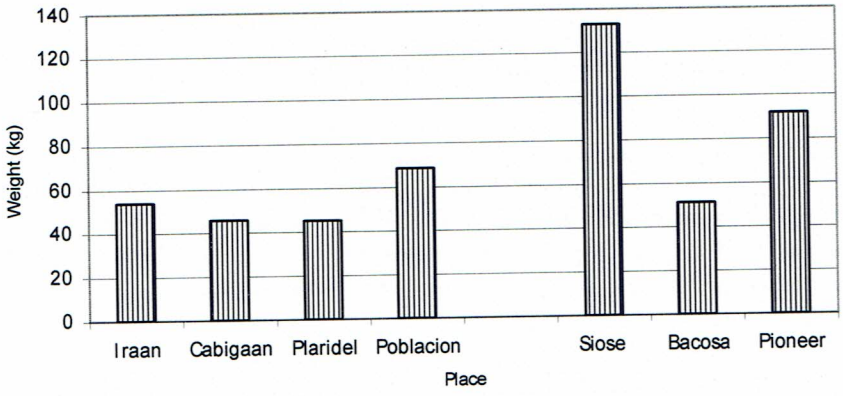

Figure 3. Average weight of solid wastes generated by the households of Aborlan municipality within 5 months.

Table 2. Distribution of respondents according to approximate annual income

Place	Annual Income			
	10-20,000	21-30,000	31-40,000	>40000
Brgy Iraan	72	12	-	16
Brgy. Cabigaan	62	31	6	-
Brgy. Plaridel	37	28	26	9
Poblacion	59	14	9	18
Pioneer Subd.	75	-	25	-
Siose Subd.	25	15	-	60
Bacosa Subd.	10	-	-	90

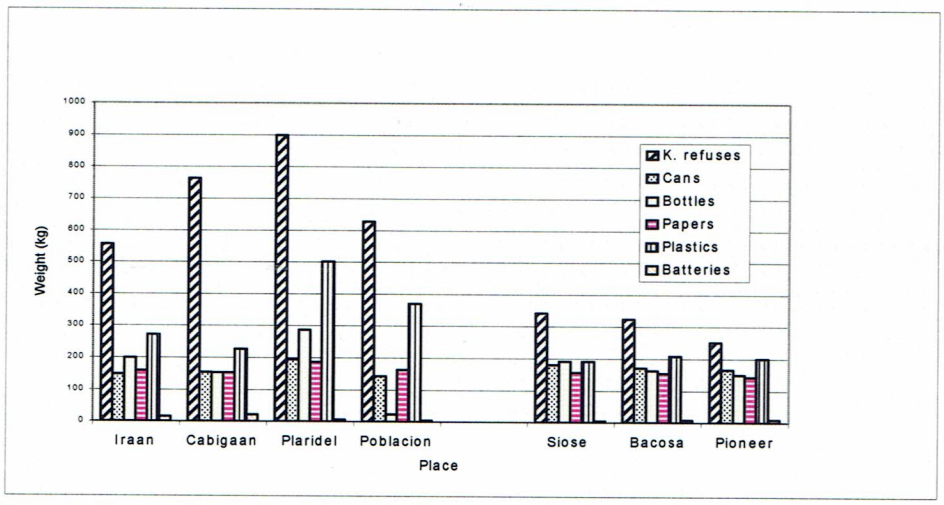

Figure 4. Total weight of each household waste in Aborlan municipality within 5 months

On the other hand, most people in Aborlan adopted burning as their waste disposal method (Table 3). Respondents stated that burning is the most convenient way of disposing of their wastes. Dashefsky (1993) stated that the presence of methane, CFCs and other gases from burnt wastes results to the depletion of ozone layer. This is because the Chlorine atom (CI) from CFCs reacts with ozone, producing an oxygen molecule, but no free oxygen atom. In this case, the ozone cannot continually reform and the ozone layer becomes depleted, allowing excess UV light to reach the earth surface. The educational attainment of the people seemed to have no effect on environmental awareness because even if people from subdivisions had higher educational attainment than from barangays there was no marked difference in their waste disposal method (Table 4).

Table 3. Distribution of respondents according to solid waste disposal practices

Place	Burn	Compost Pit	Dispose anywhere
Brgy. Iraan	88	8	4
Brgy. Cabigaan	56	28	16
Brgy. Plaridel	65	34	-
Poblacion	68	31	-
Pioneer Subd.	75	25	-
Siose Subd.	50	45	5
Bacosa Subd.	70	30	-

Table 4. Distribution of respondents according to educational attainment

Place	Educational Attainment			
	Elementary	High School	College	Others
Brgy. Iraan	23	44	24	-
Brgy. Cabigaan	40	31	16	13
Brgy. Plaridel	24	32	39	4
Poblacion	18	27	55	0
Pioneer Subd.	25	1	62	0
Siose Subd.	5	0	95	0
Bacosa Subd.	0	0	100	0

CONCLUSION

Although Aborlan is still far from being an industrialized municipality, the type of household solid waste it generated is similar to industrialized areas. These wastes were improperly handled as evidenced by the absence of segregation, reusing, recycling and recovery practices in most households.

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ACKNOWLEDGMENT

We thank the Aborlan Sangguniang Bayan through former SB Member, Hon. Apolonio Anunciado and the former Mayor, Hon. Nelson P. Peneyra for the financial and logistical assistance during the conduct of the study.