

Implementation of Environmental Education Policies in the Hinterlands of Northern Samar

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ABSTRACT

The perceptions of the faculty members, school officials and students in terms of the implementation of the environmental education policies in the hinterlands of Northern Samar specifically in Silvino Lobos, Northern Samar were analyzed in this work. A positive response on waste reduction and management and a rejection on the use of plastics and individual bulk packaging of products from suppliers were manifested. Further perceived was the disliking of artesian well as the source of water; agreed on the composting biodegradables and the segregating waste in academic institutions and proper sealing of hazardous wastes before disposal. Eight (8) environment themes were integrated in the curriculum specifically in Music, Health and Physical Education, English, Social Studies, Filipino, and Mathematics, which run counter to the non-availability of a general policy on environment by the local government unit. Environmental policy must be reflected in the vision and mission of the local government unit, as the schools follow and implement certain operational standards that are environment-friendly, and integrate environmental education in most of the subjects.

Keywords: *environmental education, environmental policy, environmental education, waste management, environmental protection*

INTRODUCTION

Education is the main avenue through which society prepares its citizens in carrying out their responsibility (Environmental Education Guide, 1990).

Environmental education is one of the factors that can help protect the environment. As Silvino Lobos is an instrument that produce graduates that are not only globally competitive but also environmentally literate, the level of implementation of the schools on environmental protection, including strategies, and awareness in the process of educating the students need to be investigated, thus this study.

Northern Samar is one of the Visayan provinces that boasts of rich natural resources, and these too are threatened. The waters surrounding the province host abundant marine resources—but droves of small and commercial fishers are threatening the sustainability of sea resources owing to over-and irresponsible fishing. Even at the present state of exploitation and open access fishing, the province has high fish yields.

The present state of the environment in Northern Samar reveals the fragile state of its ecosystems due to overuse and the demands of a growing population, abuse, unregulated

human activities in all ecosystems, lack of concern for the environment, and weak political will of local government officials, among others. Environmental programs of local government units and agencies and even NGOs and the academe depend mostly on external funding. There is a need for the academe and local government units to explore innovative explorations into environmental management, protection and conservation that draw from the social capital, passion and local resources of communities. Northern Samar, though productive, will drive its resources to the point of degradation if unregulated and unchecked.

Environmental education policies should be incorporated in the school's educational goals because the resolution to environmental problems call active and conscious response from the students who are environmental literates. Thus, the researcher was prompted to conduct this study in order to determine how far the Silvino Lobos Vocational High School has gone into implementing environmental education policies.

METHODOLOGY

This study used the descriptive research design. It aimed to describe the perceptions of the Silvino Lobos Vocational High School, Northern Samar particularly the teachers,

school official, and students towards environmental protection and management. A survey questionnaire was used to gather the necessary data from the respondents to determine the implementation of environmental education policies in terms of general, personnel and purchasing policies. It was patterned from the Environmental Education Guide (Green Audit Form, 1999) which is designed by simply checking the box before the questions, for the respondents. The respondents included 69 fourth year students, 14 teachers, and one (1) school official of the Silvino Lobos Vocational High School.

The teachers and school official were completely enumerated. The student respondents, on the other hand, were randomly selected through the fish-bowl method. In obtaining the sample size of student-respondents the formula below was used.

$$S = \frac{N}{1 + N(e)^2}$$

Where: **S** = sample size
N = number of population
E = 0.05 margin of error
1 = constant

Actual survey was conducted to gather the needed data. Questionnaires were distributed to the respondents which were retrieved after they were answered. The data retrieved were recorded, tabulated and analyzed.

Statistical Treatment of Data

The responses were tabulated and analyzed using frequency counts and percentages. The data are presented in tables.

RESULTS AND DISCUSSION

This study investigated the perceptions of the faculty of members, school official and students in terms of environmental protection and management. It employed random sampling using survey questionnaires to gather data from the respondents. Frequency counts and percentage were used to process the data. Most of the respondents had positive responses on waste reduction and management, as the commonly used environmental protection strategy in the school. A majority of them rejected plastics and agreed that these are harmful to the environment friendly products, are materials that can be recycled, and less favored materials are the non-toxic products, and a majority of the respondents favored that individual bulk packaging is preferred than bulk packaging of products from suppliers.

Silvino Lobos does not have a general environmental policy, but has a plan to formulate an environmental policy to be implemented next calendar year. However, environmental protection is part of the school even if there is no defined general environmental policy. The environmental consideration included in the criteria for decision making is to maintain the cleanliness of the school. Furthermore, there is no committee responsible for environmental projects and programs in the school.

Environmental consideration is not included in the performance appraisal system of faculty, department head or school official and support staff or employees since the school does not have general environmental policy.

Table1. Responses of Faculty Members, School Official, and Students on Environmental Protection Practices

| Environmental practices | Students | | | Faculty Members | | | School Official | | | RANK |
|---|--------------|------------|------------|-----------------|---------|------------|-----------------|-------|-------|------|
| | P | N | NR | P | N | NR | P | N | NR | |
| | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | |
| Waste reduction and management | 52 (62.65) | 11 (13.25) | 6 (7.23) | 13 (15.66) | 0 | 1 (1.2) | 1 (1.2) | 0 | 0 | 1 |
| Use of non- toxic materials | 29 (34.93) | 17 (20.48) | 23 (27.7) | 8 (9.67) | 1 (1.2) | 5 (6.02) | 1 (6.2) | 0 | 0 | 2 |
| Conduct on environmental community based projects | 22 (26.5) | 31 (37.35) | 16 (19.28) | 10 (12.05) | 0 | 4 (4.8) | 1 (1.2) | 0 | 0 | 3 |
| TOTAL | 103 (124.09) | 59 (71.8) | 45 (54.2) | 31 (37.35) | 1 (1.2) | 10 (12.05) | 3 (3.6) | 0 | 0 | |

The first three environmental protection practices in the school were waste reduction and management, wherein 52 or 62.67% were from the students, 13 or 15.66% from the faculty members and 1.2% from the school official; the use of non-toxic material was ranked second, 29 or 34.93% from students, 8 or 9.67% from the faculty members and 1.2% from the school official. The conduct of environmental community-based projects ranked third, with 22 or 26.5% from the students, 10 or 12.05% from the faculty members and 1.2% from school official. This shows high awareness level that environmental conservation practices had to be considered in the place.

Purchasing

Table2. Responses of Faculty Members, School Official, and Students on Products Harmful to the Environment

| Products Harmful to the Environment | Students | | | Faculty Members | | | School Official | | | RANK |
|-------------------------------------|---------------|-----------------|---------------|-----------------|------------|--------------|-----------------|-------|------------|------|
| | P | N | NR | P | N | NR | P | N | NR | |
| | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | |
| Styrofoam | 35 (42.17) | 25 (30.12) | 9 (10.84) | 8 (9.64) | 0 | 6 (7.23) | 1 (1.2) | 0 | 0 | 3 |
| CFC Aerosols | 25 (30.12) | 35 (42.17) | 9 (10.84) | 11 (13.25) | 0 | 3 (3.6) | 1 (1.2) | 0 | 0 | 5 |
| Oil Based Paints | 34 (40.96) | 24 (28.9) | 11 (13.25) | 9 (10.84) | 0 | 5 (6.02) | 0 | 0 | 1 (1.2) | 4 |
| Fire Extinguisher Using Halons | 19 (22.89) | 32 (38.55) | 18 (21.69) | 11 (13.25) | 0 | 3 (3.6) | 1 (1.2) | 0 | 0 | 6 |
| High Phosphate Detergent | 35 (42.17) | 25 (30.12) | 9 (10.84) | 11 (13.25) | 0 | 3 (3.6) | 1 (1.2) | 0 | 0 | 2 |
| Plastics | 42 (50.6) | 14 (16.87) | 13 (15.66) | 10 (12.05) | 0 | 4 (4.8) | 1 (1.2) | 0 | 0 | 1 |
| Synthetic Pesticides | 33 (39.76) | 22 (26.5) | 14 (16.87) | 9 (10.84) | 1 (1.2) | 4 (4.8) | 1 (1.2) | 0 | 0 | 4 |
| TOTAL | 223 (268) | 177 (213.25) | 83 (100) | 69 (83.13) | 1 (1.2) | 22 (26.5) | 6 (7.25) | 0 | 1 (1.2) | |

Harmful products were rejected by the respondents. It was further revealed that plastics ranked the highest as product that were rejected by the respondents, 42 or 50.6% from the students, 10 or 12.05% from the faculty members and 1 or 1.2% from the school official. This was followed by high phosphate detergents with 47 or 18.87%, 35 or 42.17% from the students, 11 or 13.25% from the faculty members and 1.2% from the school official; oil based paints with 34 or 40.96% from the students, 9 or 10.84% from the faculty members and no response from the school official; synthetic pesticides with 33 or 39.76% from the students, 9 or 10.84% from the faculty members and a positive response from the school official; Styrofoam with 44 or 53.21%; CFC aerosols with 37 or 43.77% and the last was fire extinguisher using halons with 31 or 36.54%. The most obvious form of pollution associated with plastic packaging is wasted plastic sent to landfills. The result of the study manifested that majority of the respondents are aware of this consequence. Infact, one of the most ubiquitous and long-lasting recent changes to the surface of our planet is the accumulation and fragmentation of plastics (Barnes, David)

Table3. Responses of Faculty Members, School Official, and Students on Products that are Environmental-Friendly

| Environmental-Friendly products | Students | | | Faculty Members | | | School Official | | | RANK |
|---------------------------------|----------------|----------------|--------------|-----------------|-------------|--------------|-----------------|-------|-------|------|
| | P | N | NR | P | N | NR | P | N | NR | |
| | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | f (%) | |
| Recycled | 55 (66.3) | 1 (1.2) | 13 (15.7) | 13 (15.7) | 0 | 1 (1.2) | 1 (1.2) | 0 | 0 | 1 |
| Recyclable | 45 (54.2) | 6 (7.22) | 18 (21.7) | 11 (13.3) | 1 (1.2) | 2 (2.4) | 1 (1.2) | 0 | 0 | 2 |
| Non-Toxic | 17 (20.5) | 31 (37.3) | 21 (25.3) | 10 (12.1) | 1 (1.2) | 3 (3.6) | 1 (1.2) | 0 | 0 | 8 |
| Biodegradable | 32 (38.6) | 9 (10.8) | 28 (33.7) | 12 (14.5) | 0 | 2 (2.4) | 1 (1.2) | 0 | 0 | 3 |
| Rechargeable | 26 (31.3) | 21 (25.3) | 22 (26.5) | 10 (12.1) | 0 | 3 (3.6) | 1 (1.2) | 0 | 0 | 5 |
| Refillable | 18 (21.7) | 29 (34.9) | 22 (26.5) | 11 (13.3) | 1 (1.2) | 3 (3.6) | 1 (1.2) | 0 | 0 | 7 |
| Secondhand | 33 (39.8) | 16 (19.3) | 20 (24.1) | 9 (10.8) | 2 (2.4) | 3 (3.6) | 1 (1.2) | 0 | 0 | 4 |
| Reusable | 21 (25.3) | 26 (31.3) | 22 (26.5) | 12 (14.5) | 1 (1.2) | 1 (1.2) | 1 (1.2) | 0 | 0 | 6 |
| TOTAL | 247 (297.6) | 139 (167.5) | 166 (200) | 88 (106) | 6 (7.23) | 21 (25.3) | 8 (9.6) | 0 | 0 | |

Table 3 shows that out of eight (8) environmentally-friendly products, 69 respondents favored the use of recycled products, 55 from students, 13 from the faculty members and positive response from the school official. This was followed by the recyclable products, agreed by the respondents or 54.2% from the students, 13.3% from the faculty members and 1.2% from the school official; biodegradable products with 38.6% from the students, 14.5% from the faculty members and 1.2% from the school official. Around 51.8% respondents favored second-hand recyclable products with 31.3% from the students, 13.3% from the

faculty members and 1.2 from the school official. 34 or 40.96% respondents favored the use of reusable, 25.3% from the students, 14.45% from the faculty members a positive response from the school officials. 29 or 34% respondents agreed the use of refillable products, twenty eight or 33.73 respondents agreed the use of non-toxic products which were less favored products. Responses revealed that recycling of products are feasible and the most environment-friendly operation or practice. The fields of application for green marketing and recycling, although characterized by their thematic novelty, have, in fact, advanced recently in their doctrinal body (Meneses, Gonzalo, 2015).

Table4. Response of Faculty Members, School Official, and Students on the Type of Packaging from the Suppliers

| Kind of packaging | Students | | | Faculty Members | | | School Official | | | RANK |
|------------------------------|---------------|---------------|---------------|-----------------|------------|---------------|-----------------|-------|------------|------|
| | P | N | NR | P | N | NR | P | N | NR | |
| | f (%) | f (%) | f (%) | F (%) | f (%) | f (%) | f (%) | f (%) | f (%) | |
| Bulk packaging | 19 (22.89) | 25 (30.12) | 25 (30.12) | 4 (4.8) | 2 (2.4) | 8 (9.6) | 1 (1.2) | 0 | 0 | 2 |
| Individual packaging in Bulk | 32 (38.55) | 10 (12.05) | 27 (32.53) | 2 (2.4) | 1 (1.2) | 11 (13.25) | 0 | 0 | 1 (1.2) | 1 |
| TOTAL | 51 (61.44) | 35 (42.17) | 52 (62.65) | 6 (7.23) | 3 (3.6) | 19 (22.89) | 1 (1.2) | 0 | 1 (1.2) | |

Most of the respondents favored individual packaging of products rather than in bulk purchased by the school with 34 or 40.96%, 32 or 38.55% from the students, 2 or 2.4% from the faculty members, and there is no response from the school official. Compared to bulk packaging with 24 or 28.92%, wherein 19 or 22.84% from the students, 4 or 4.8% from the faculty members and 1.2% from the school official. According to Food Industry Leadership Center of Portland University, USA, millions of pounds of waste saved from landfill.

There was integration of environmental concerns/theme in the curriculum as part of enhancing environmental education among the students. Science subject ranked the highest of about 75 positive responses or 90.36%, wherein 62 or 74.7% from the students, 13 or 15.66% from the faculty members, the school official gave a positive response. English and Values were ranked second with 60 or 72.29% from the students, 12 or 14.45% from the faculty members. the school official gave a positive response. The third ranked subjects were Filipino and Mathematics of about 67 positive response or 80.7%. The fourth ranked were Music, Health and Physical Education with 57 or 68.67% from the students, 12 or 14.45% from the faculty members, the school official gave a positive response. Last in the rank were Home Economics and Social Studies of about 61 positive response or 73.49%. This indicates that integration of environmental themes/subjects were evident in most of their science subjects.

Table5. Responses of Faculty Members, School Official, and Students on the Integration of Environmental Concerns/Themes in the Curriculum

| Subjects | Students | | | Faculty Members | | | School Official | | | RANK |
|-------------------------------------|-----------------|---------------|--------------|-----------------|-------|---------------|-----------------|-------|------------|------|
| | P | N | NR | P | N | NR | P | N | NR | |
| | f (%) | f (%) | f (%) | F (%) | f (%) | f (%) | f (%) | f (%) | f (%) | |
| English | 60 (72.29) | 7 (8.4) | 2 (2.4) | 12 (14.45) | 0 | 2 (2.4) | 0 | 0 | 1 (1.2) | 2 |
| Filipino | 56 (67.47) | 9 (10.84) | 4 (4.8) | 11 (13.25) | 0 | 3 (3.6) | 0 | 0 | 1 (1.2) | 3 |
| Social Studies | 49 (59.04) | 15 (18.02) | 5 (6.02) | 11 (13.25) | 0 | 3 (3.6) | 1 (1.2) | 0 | 0 | 5 |
| Music Health and Physical Education | 57 (68.67) | 9 (10.84) | 3 (3.6) | 12 (14.45) | 0 | 2 (2.4) | 1 (1.2) | 0 | 0 | 4 |
| Home Economics | 49 (59.04) | 13 (15.66) | 7 (8.4) | 11 (13.25) | 0 | 3 (3.6) | 1 (1.2) | 0 | 0 | 5 |
| Mathematics | 55 (66.27) | 10 (12.05) | 4 (4.8) | 11 (13.25) | 0 | 3 (3.6) | 1 (1.2) | 0 | 0 | 3 |
| Science | 62 (74.7) | 5 (6.02) | 2 (2.4) | 13 (15.66) | 0 | 1 (1.2) | 1 (1.2) | 0 | 0 | 1 |
| Values | 59 (71.08) | 8 (9.6) | 2 (2.4) | 12 (14.45) | 0 | 2 (2.4) | 1 (1.2) | 0 | 0 | 2 |
| TOTAL | 447 (538.55) | 76 (91.6) | 29 (34.9) | 93 (112.05) | 0 | 19 (22.89) | 6 (7.23) | 0 | 2 (2.4) | |

The data indicate that the environmental themes/concerns were integrated in the above-mentioned subjects. Teachers in Home Economics and Social Studies should endeavor to incorporate environmental themes in their subjects.

Table6. Responses of Faculty Members, School Official, and Students on the Adequacy and Usage of Audio-Visual Materials regarding Environment

| Practices | Students | | | Faculty Members | | | School Official | | | RANK |
|--|---------------|---------------|---------------|-----------------|-------|---------------|-----------------|-------|------------|------|
| | P | N | NR | P | N | NR | P | N | NR | |
| | f (%) | f (%) | f (%) | F (%) | f (%) | f (%) | f (%) | f (%) | f (%) | |
| Student have easy to access these resources | 33 (39.75) | 15 (18.07) | 51 (61.4) | 3 (3.6) | 0 | 11 (13.25) | 0 | 0 | 1 (1.2) | 2 |
| Students are encouraged to make use of these resources | 31 (37.35) | 18 (21.69) | 20 (24.09) | 7 (8.4) | 0 | 7 (8.4) | 0 | 0 | 1 (1.2) | 1 |
| TOTAL | 64 (77.1) | 33 (39.75) | 71 (81.5) | 10 (12.05) | 0 | 18 (21.69) | 0 | 0 | 2 (2.4) | |

The adequacy and use of audio-visual materials on environment were encouraged to make use of the audio-video materials regarding the environment with 36 positive respondents' response. Furthermore, the students had positive response on the accessibility of these resources. This means that the school had relatively adequate audio-visual materials regarding the environment and that these were accessible for use by the students.

CONCLUSIONS

Based on the results obtained, the following conclusions were drawn; the absence of a general policy on environment are the non-reflection of the same in its vision and mission and environmental consideration are but excellent points for consideration and environmental education is part of the academic development as manifested in the Environmental themes/concerns are integrated in the curriculum, particularly in Science, English, Values Education, Filipino, Mathematics, Music, Health and Physical Education, but with lesser integration in Home Economics and Social Studies.

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