

Effectiveness of Environmental Law Dissemination and Implementation Among Sangguniang Kabataan (SK) Members in the Municipality of Malibcong, Abra

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Abstract

This study aimed to determine the effectiveness of environmental law dissemination and implementation among Sangguniang Kabataan (SK) members in the Municipality of Malibcong, Abra, in terms of awareness, participation, and implementation of solid waste management and climate change mitigation programs. A descriptive–evaluative research design employing a one-group pretest–posttest approach was utilized. The respondents consisted of 48 SK members selected through total enumeration. Data were collected using validated instruments, including a 30-item multiple-choice questionnaire and a structured survey questionnaire.

The findings revealed that the municipality has established ordinances on solid waste management and climate change mitigation aligned with Republic Act No. 9003 and Republic Act No. 9729. Before the seminar, the respondents obtained a mean percentage score of 38.33%, interpreted as *Needs Improvement*. The extent of implementation was rated *Highly Implemented* for solid waste management ($M = 4.01$) and climate change mitigation ($M = 4.00$). Awareness of solid waste management was rated *Very Aware* ($M = 3.43$), while awareness of climate change mitigation was *Moderately Aware* ($M = 2.88$). Participation was rated *High* in solid waste management ($M = 4.20$) and *Very High* in climate change mitigation ($M = 4.46$).

Following the seminar, the respondents' mean percentage score increased to 87.22%, interpreted as *Outstanding*. A paired-samples *t*-test revealed a statistically significant difference between the pre-test and post-test scores ($p < .001$), leading to the rejection of the null hypothesis. These findings demonstrate that the seminar was effective in enhancing the SK members' knowledge of environmental laws.

The study concludes that structured environmental law dissemination significantly improves the knowledge of youth leaders and supports greater participation in and implementation of environmental programs. It recommends sustaining capacity-building initiatives, strengthening policy enforcement, and enhancing climate change awareness programs to promote effective environmental governance in the Municipality of Malibcong, Abra.

Keywords: *Environmental law dissemination, Sangguniang Kabataan, Solid waste management, Climate change mitigation, Local governance*

1. Introduction

Background and Rationale

The study was conducted to determine the effectiveness of environmental law dissemination and implementation among Sangguniang Kabataan (SK) members in the Municipality of Malibcong, Abra. The background discusses the growing environmental challenges at the global, national, and local levels, emphasizing the importance of environmental preservation, sustainability, and the implementation of environmental laws. It highlights that although the Philippines has established legal frameworks such as Republic Act No. 9003 (Ecological Solid Waste Management Act of 2000) and Republic Act No. 9729 (Climate Change Act of 2009), effective implementation depends on public awareness, participation, and enforcement. In Malibcong, environmental governance is strengthened through both national environmental laws and Indigenous conservation practices, particularly the LAPAT Environmental Management System. However, limited information dissemination, training, monitoring, and stakeholder participation continue to hinder effective implementation, particularly among SK officials. These concerns provided the rationale for assessing the effectiveness of environmental law dissemination and implementation among SK members.

Review of Related Literature

The study reviewed literature emphasizing the importance of environmental education, policy implementation, and youth participation in environmental governance. Previous studies showed that while public awareness of environmental laws exists, effective implementation remains limited because of inadequate enforcement and low community participation. Environmental education enhances awareness and promotes positive environmental attitudes, but sustained engagement and reinforcement are necessary to translate knowledge into environmental action. The literature also highlights the important role of the Sangguniang Kabataan in promoting environmental programs and encouraging youth participation in community-based environmental initiatives. These studies provided the theoretical and empirical foundation for examining the dissemination and implementation of environmental laws in Malibcong, Abra.

Statement of the Problem

This study aimed to determine the effectiveness of environmental law dissemination and implementation among Sangguniang Kabataan (SK) members in the Municipality of Malibcong, Abra.

Specifically, it sought to answer the following questions:

1. What are the existing ordinances on solid waste management and climate change mitigation in the Municipality of Malibcong, Abra?

2. What is the level of knowledge of the Sangguniang Kabataan (SK) members on the existing ordinances on solid waste management and climate change mitigation before the conduct of the seminar?
3. What is the level of awareness on solid waste management of the Sangguniang Kabataan (SK) members?
4. What is the level of awareness on climate change mitigation of the Sangguniang Kabataan (SK) members?
5. What is the extent of implementation of solid waste management among Sangguniang Kabataan (SK) members?
6. What is the extent of implementation of climate change mitigation among Sangguniang Kabataan (SK) members?
7. What is the level of participation in solid waste management of the Sangguniang Kabataan (SK) members?
8. What is the level of participation in climate change mitigation of the Sangguniang Kabataan (SK) members?
9. What is the level of knowledge of the Sangguniang Kabataan (SK) members after the conduct of the seminar?
10. Is there a significant difference between the knowledge of the Sangguniang Kabataan (SK) members before and after the conduct of the seminar on existing ordinances on solid waste management and climate change mitigation?

Objectives and Research Hypothesis

General Objective

To determine the effectiveness of environmental law dissemination and implementation among Sangguniang Kabataan (SK) members in the Municipality of Malibcong, Abra.

Research Hypothesis

H₁: There is a significant difference between the level of knowledge of the Sangguniang Kabataan (SK) members before and after the conduct of the seminar on environmental laws in the Municipality of Malibcong, Abra.

2. Materials and Methods

Research Design

This study employed a descriptive–evaluative research design using a one-group pretest–posttest approach. The descriptive component assessed the existing environmental ordinances and the levels of awareness, participation, implementation, and access to information on environmental laws among Sangguniang Kabataan (SK) members. The evaluative component determined the effectiveness of a seminar on solid waste management and climate change mitigation by comparing the respondents' pre-test and post-test knowledge scores.

Participants

The participants consisted of forty-eight (48) Sangguniang Kabataan (SK) members from the 12 barangays of the Municipality of Malibcong, Abra, who were selected through total enumeration.

Instruments

Data were collected using researcher-developed and validated instruments, consisting of a 30-item multiple-choice questionnaire to measure knowledge of environmental laws and a structured survey questionnaire to assess the respondents' awareness, participation, and implementation of solid waste management and climate change mitigation programs. The instruments underwent content validation by three experts and obtained an overall validity rating of 4.76 (Very Valid).

Procedure

The study began with the review of existing municipal ordinances on solid waste management and climate change mitigation. The research instruments were validated and subjected to reliability testing before the administration of the pre-test. A seminar on environmental laws, particularly on solid waste management and climate change mitigation, was then conducted as the intervention. After the seminar, the post-test was administered using the same questionnaire. The collected data were subsequently organized, tabulated, analyzed, and interpreted.

Data Analysis

Descriptive statistics, including mean scores and percentages, were used to describe the respondents' knowledge, awareness, participation, and implementation of environmental laws. The Content Validity Index (CVI) was used to establish the validity of the research instrument. A paired-samples *t*-test was employed to determine the significant difference between the pre-test and post-test scores at the 0.05 level of significance, while Hedges' *g* was used to determine the effect size of the seminar intervention.

3. Results

Existing Environmental Ordinances and Local Programs

Table 1 presents the existing environmental ordinances and local programs implemented in the Municipality of Malibcong, Abra. The municipality has adopted ordinances and programs on solid waste management and climate change mitigation, including waste segregation, prohibition of open dumping and open burning, establishment of Materials Recovery Facilities (MRFs), implementation of the Local Climate Change Action Plan (LCCAP), Disaster Risk Reduction and Management (DRRM), and the Indigenous Peoples' LAPAT Environmental Management System.

Table 1a

Area	Description	Legal Basis
Waste Segregation	Segregation at source is required	RA 9003
No Segregation, No Collection	Waste must be segregated before collection	RA 9003
Anti-Open Burning	Burning of waste is prohibited	RA 9003
Anti-Dumping	Dumping in rivers and public areas is prohibited	RA 9003
Materials Recovery Facility (MRF)	Barangay must have MRF	RA 9003

Table 1b

Area	Description	Legal Basis
Climate Action Plan	LCCAP 2024–2029 implemented	RA 9729
Disaster Risk Reduction	DRRM programs in place	RA 10121
Environmental Programs	Tree planting, conservation activities	RA 9729
Budget Allocation	Climate programs funded	Municipal Resolution
Policy Integration	Climate policies integrated in planning	LCCAP

Descriptive Statistics

Table 2 presents the descriptive statistics of the respondents' awareness, implementation, participation, and knowledge of environmental laws.

Variable	Mean	Interpretation
Pre-test Knowledge	38.33%	Needs Improvement
Awareness on Solid Waste Management	3.43	Very Aware
Awareness on Climate Change Mitigation	2.88	Moderately Aware
Implementation of Solid Waste Management	4.01	Highly Implemented
Implementation of Climate Change Mitigation	4.00	Highly Implemented
Participation in Solid Waste Management	4.20	High Participation
Participation in Climate Change Mitigation	4.46	Very High Participation
Post-test Knowledge	87.22%	Outstanding

The respondents obtained a mean percentage score of 38.33% during the pre-test, interpreted as Needs Improvement. Awareness of solid waste management was rated Very Aware ($M = 3.43$), while awareness of climate change mitigation was Moderately Aware ($M = 2.88$). The implementation of both solid waste management ($M = 4.01$) and climate change mitigation ($M = 4.00$) was rated Highly Implemented. Participation in solid waste management was High ($M = 4.20$), whereas participation in climate change mitigation was Very High ($M = 4.46$). Following the seminar, the respondents' mean percentage score increased to 87.22%, interpreted as Outstanding.

Inferential Statistics

Table 3 presents the results of the paired-samples *t*-test comparing the respondents' pre-test and post-test scores.

	Pretest	Posttest	Mean Gain	Hedges' g	T-value	T-Prob Value
1. Existing Ordinances on Solid Waste Management in Malibcong	10.42	89.06	78.64	22.65	24.25	<0.001
2. Existing Ordinances on Climate Change Mitigation in Malibcong	6.94	75	68.06	26.81	17.73	<0.001
3. Awareness of SK members on Solid Waste Management	29.69	88.02	58.33	14.08	28.94	<0.001
4. Awareness of SK members on Climate Change Mitigation	3.47	84.03	80.56	20.6	27.31	<0.001
5. Participation of SK members on Solid Waste Management Activities	75	100	25	0.73	239	<0.001
6. Participation of SK members on Climate Change Management Activities	31.25	75	43.75	25.14	12.15	<0.001
7. Implementation of Solid Waste Management Programs	51.56	76.56	25	18.74	9.32	<0.001
8. Implementation of Climate Change Mitigation Programs	72.92	100	27.08	17.11	11.05	<0.001
Overall Assessment	66.67	100	33.33	48.02	4.85	<0.001
Overall	38.33	87.22	48.89	6.06	56.38	<0.001

The paired-samples *t*-test revealed a statistically significant difference between the pre-test and post-test scores ($p < .001$), resulting in the rejection of the null hypothesis. The findings indicate that the seminar significantly improved the respondents' knowledge of environmental laws. The computed Hedges' *g* of 6.06 indicated a very large effect of the seminar intervention on the respondents' knowledge of environmental laws.

4. Discussion

Interpretation of Findings

The findings demonstrate that the seminar intervention significantly improved the environmental law knowledge of the Sangguniang Kabataan (SK) members in the Municipality of Malibcong, Abra. The increase in the respondents' mean percentage score from 38.33% (Needs Improvement) to 87.22% (Outstanding), together with the statistically significant difference between the pre-test and post-test scores ($p < .001$) and the very large effect size (Hedges' $g = 6.06$), indicates that the seminar was highly effective in enhancing the respondents' understanding of environmental laws. Although the respondents exhibited high levels of participation and implementation in environmental programs, the findings also revealed relatively lower awareness of climate change mitigation and weaknesses in governance, enforcement, monitoring, and evaluation, suggesting areas that require continuous capacity-building and institutional support.

Comparison to Existing Studies

The findings support previous studies indicating that environmental education and capacity-building programs improve environmental knowledge and encourage greater community participation. Similar to the findings of Debra et al. (2021), the seminar enhanced the respondents' understanding of environmental laws, demonstrating the importance of continuous environmental education. Likewise, the results are consistent with Molina and Catan (2021) and Verzosa (2024), who emphasized that awareness alone is insufficient to achieve effective environmental governance and that sustained participation, policy enforcement, and stakeholder engagement are necessary for successful implementation of environmental programs.

Implications for Practice and Policy

The findings highlight the importance of conducting regular environmental law seminars and capacity-building activities for Sangguniang Kabataan members to strengthen their knowledge and leadership in environmental governance. Local Government Units (LGUs) may utilize the findings in developing continuous environmental education programs, strengthening the implementation of Republic Act No. 9003 and Republic Act No. 9729, and improving monitoring and enforcement mechanisms. The validated brochure and policy brief developed through this study may also serve as supplementary information materials during environmental awareness campaigns, orientations, and community-based environmental programs.

Study Limitations

This study was limited to the 48 Sangguniang Kabataan members from the Municipality of Malibcong, Abra; therefore, the findings may not be generalizable to other municipalities or provinces. The study employed a one-group pretest–posttest design, which measured only the immediate effects of the seminar intervention and did not assess the long-term retention of knowledge or sustained behavioral changes. Furthermore, the study relied on self-reported

survey responses for awareness, participation, and implementation, which may have been influenced by respondents' perceptions and social desirability.

5. Conclusion

The study demonstrated that environmental law dissemination through a structured seminar significantly improved the knowledge of Sangguniang Kabataan (SK) members regarding solid waste management and climate change mitigation in the Municipality of Malibcong, Abra. The findings revealed that while the municipality has established environmental ordinances and programs aligned with Republic Act No. 9003 and Republic Act No. 9729, there remain opportunities to strengthen climate change awareness, policy enforcement, monitoring, and evaluation. The significant improvement in the respondents' post-test scores, supported by the paired-samples *t*-test ($p < .001$) and a very large effect size (Hedges' $g = 6.06$), confirms the effectiveness of the seminar intervention in enhancing environmental law knowledge and supporting youth participation in local environmental governance.

The study recommends the continuous implementation of environmental education and capacity-building programs for Sangguniang Kabataan members to sustain and strengthen their knowledge, participation, and leadership in environmental governance. Local Government Units are encouraged to enhance policy enforcement, monitoring, and community engagement through regular environmental campaigns and training activities. Future researchers may replicate the study in other municipalities, include a larger and more diverse sample, employ a control group or experimental research design, and examine the long-term effects of environmental law dissemination on behavioral change and policy implementation.

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