

# Climate Change Education & School Disaster Management in Promoting Organizational Resilience of Stand-Alone Senior High Schools in the Division of Laguna

Aaron John P. Tolentino<sup>a</sup>

*Aaronjohn.tolentino@deped.gov.ph  
Laguna State Polytechnic University Sta. Cruz Laguna 4009 PHILIPPINES*

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## Abstract

This study aimed to determine the Climate Change Education & School Disaster Management in promoting Organizational Resilience of Stand-Alone Senior High Schools in the Schools Division of Laguna. This study also answers the following: (1) The level of implementation of Climate Change Education, (2) The level of implementation of School Disaster Management, (3) The level of Organizational Resilience of Stand-Alone Senior High Schools, (4) Significant relationships between Climate Change Education and Organizational Resilience, (5) Significant relationships between School Disaster Management and Organizational Resilience, (6) Singly and in combination analysis of Climate Change Education & School Disaster Management as Predictors of Organizational Resilience, and (7) Calendar of Proposed Activities (CAPA).

In this study, the descriptive method was used to examine climate change education, school disaster management, organizational resilience, and all the inferential questions in this research. The researcher purposively surveyed all Proficient Teachers from all Stand-Alone Senior High Schools with one hundred forty-three (143) teachers. The survey was conducted from November to December 2023 using a validated researcher-made questionnaire. The researcher used the formula for mean, standard deviation, ANOVA, Pearson (r), and multiple linear regression.

Based on the findings, the implementation of climate change education was “Very High”. It was also found that the implementation of school disaster management was “Very High”. As for the organizational resilience of Stand-Alone Senior High Schools, it was remarked as “Strongly Agree” with a verbal interpretation of “Very High”. Moreover, the findings revealed that there is a significant relationship between climate change education and organizational resilience. Also, school disaster management showed a significant relationship with organizational resilience. In a single analysis, however, it was found that climate change education & school disaster management are not significant predictors of organizational resilience. Nevertheless, it was found that climate change education & school disaster management in combination are significant predictors of organizational resilience.

As the findings suggest, the researcher rejected the null hypothesis stating insignificant relationship between climate change education and organizational resilience since the computed p-value were found lower than the significance alpha 0.05. This is also the case for rejecting the null hypothesis stating insignificant relationship between school disaster management and organizational resilience. However, the single analysis on climate change education and school disaster management as significant predictors of organizational resilience showed overall insignificance. Meanwhile, in combination analysis showed the opposite overall result therefore accepting the null hypothesis in single analysis but rejecting the null hypothesis in combination analysis.

Consequently, the researcher recommends that schools may further promote environmental and climate care activities, particularly among teachers, and encourage more research activities. Also, continue with the guidelines and support for climate change education with stakeholders including DENR, LGUs, NYC, research, and teaching-learning activities.

Keywords: Climate change; Education; Management

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## 1. Introduction

In the broad field of educational management, the keystone of effective educational institutions lies in the creation and maintenance of its safety, security, and climate sensitivity. Management on climate change education and school disaster management are two critical areas that have gained increasing attention in recent years due to growing impacts of climate change and the need to prepare communities, including schools, for potential disasters.

In the Philippines, one of the ways forward for the long-term Basic Education Development Plan for transforming education is quality learning delivery especially amid disasters. The Department of Education also incorporates Learning Continuity Plans (LCPs) as part of the disaster-resilient move of schools at all levels. Under the Republic Act No. 10121, school curricula, particularly in DepEd, are mainstreaming Disaster Risk Reduction (DRR) in lessons and activities (Press & Public Affairs Bureau, 2015). The department anchored its climate actions with the CCC Resolution No. 3 (2015) where schools strategically create a community protecting climate systems based from RA No. 10174. This is part of the whole scale nation-building mentioned in Republic Act No. 10742 (2016) enabling learners as community leaders to adapt to environmental protection.

The implementation of climate change education and school disaster management considering the mentioned regulations were the diligent assets to fight threats on destabilizing school progress. In recent studies on climate change education, there has been a noticeable gap in understanding its combined capability with school disaster management to promote resilience of school organizations. Previous research has primarily focused on the science, political moves, economic concerns, and impacts of climate change, leaving schools' curriculum and management especially those less mentioned and visited schools including Stand-alone Senior High Schools relatively unexplored. This gap also presents an opportunity to delve deeper into school disaster management implementation, thereby contributing to the existing body of knowledge on promoting higher organizational resilience of schools. Consequently, this study aimed to address these gaps by using correlational design of research.

The findings of this study hold significant potential benefits in several key areas including the mentioned research gap and enhanced understanding of implementing climate change education and school disaster management. Such insights could pave the way for more higher organizational resilience of schools to continue its functions and quality services before, during, and after a disaster strike, ultimately leading to numerous academic successes, positive culture, partnerships, adaptability, increased student engagement, and even lifelong quality learning services.

For that reason, this study dealt with climate change education and school disaster management in promoting organizational resilience of Stand-alone Senior High Schools in the Division of Laguna.

### 1.1 Statement of the problem

Specifically, the study seeks to determine the following:

1. What is the level of implementation of climate change education of Stand-alone Senior High Schools in the Division of Laguna in terms of:

1.1 curriculum integration;

1.2 co-curricular activities;

- 1.3 stakeholder involvement;
- 1.4 environmental awareness; and
- 1.5 educational resources?

2. What is the level of implementation of school disaster management of Stand-alone Senior High Schools in the Division of Laguna in terms of:

- 2.1 disaster prevention;
- 2.2 disaster mitigation;
- 2.3 disaster preparedness;
- 2.4 disaster response; and
- 2.5 disaster recovery?

3. What is the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna in terms of:

- 3.1 programs and strategies;
- 3.2 business system;
- 3.3 organizational culture;
- 3.4 leadership & management;
- 3.5 monitoring & reporting;
- 3.6 stakeholder engagement;
- 3.7 resources and infrastructure; and
- 3.8 risk management planning?

4. Does the level of climate change education have a significant relationship on the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna?

5. Does the level of school disaster management have a significant relationship on the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna?

6. Singly or in combination are climate change education and school disaster management are significant predictors of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna?

7. What Calendar of Annual Proposed Activities (CAPA) can be proposed to Stand-alone Senior High Schools in the Schools Division of Laguna concerning the findings and inputs of its school disaster management and climate change education on organizational resilience?

## **2. Methodology**

In this study, the task at hand involved the descriptive collection of data to answer the level of climate change education, school disaster management, and organizational resilience of Stand-alone Senior High Schools in the Division of Laguna. Campilla (2016) used a descriptive research method for assessing the

level of disaster risk reduction administration practices of school managers in public elementary schools in Pangasinan, as the development of deductions conclusions, along with suggestions were also the goals of his descriptive as well as analytical data analysis.

The main objective of this study was to assess climate change education and school disaster management in promoting organizational resilience of Stand-alone Senior High Schools in the Division of Laguna.

### 3. Results and Discussion

This chapter dealt with the presentation, analysis and interpretation of the data gathered to determine the climate change education and school disaster management in Promoting organizational resilience of Stand-alone Senior High Schools in the Division of Laguna. The presentation, analysis and interpretation of data are based and organized according to the statement of the problem.

#### ***Level of Implementation of Climate Change Education of Stand-alone Senior High Schools in the Schools Division of Laguna as Perceived by the Teachers***

This first section discusses the statement of the problem number one (1), what is the level of implementation of climate change education of Stand-alone Senior High Schools in the Division of Laguna in terms of curriculum integration, co-curricular activities, stakeholder involvement, environmental awareness, and educational resources.

**Table 1.** *Level of Implementation of Climate Change Education of Stand-alone Senior High Schools as Perceived by Teachers in terms of Curriculum Integration*

| The school organization...                                                                                                                                                                            | MEAN      | SD   | REMARKS        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| <i>...provides sessions by sharing the need to perform roles in taking care of the environment, such as following rules on waste management inside the class, at home, and wherever students are.</i> | 4.56      | 0.56 | Strongly Agree |
| <i>...Encourages teachers to participate in community activities that promote environmental or climate care and awareness.</i>                                                                        | 4.57      | 0.54 | Strongly Agree |
| <i>...Encourages teachers and students to attend seminars, workshops, and training relative to environmental or climate care and awareness.</i>                                                       | 4.50      | 0.65 | Strongly Agree |
| <i>...Integrates solid waste management (recycle, reuse, reduce, and waste segregation) in the classroom.</i>                                                                                         | 4.50      | 0.67 | Strongly Agree |
| <i>...Requires news readings about current environmental problems.</i>                                                                                                                                | 4.40      | 0.63 | Strongly Agree |
| <i>...Integrates environmental care and climate change mitigation in the curriculum.</i>                                                                                                              | 4.46      | 0.64 | Strongly Agree |
| <i>...Conducts research activities on environment and climate change.</i>                                                                                                                             | 4.36      | 0.75 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                                                                  | 4.48      |      |                |
| <b>Overall SD</b>                                                                                                                                                                                     | 0.51      |      |                |
| <b>Verbal Interpretation</b>                                                                                                                                                                          | Very High |      |                |

Table 1 presents the level of climate change education of Stand-alone Senior High Schools in the Schools Division of Laguna as perceived by teachers in terms of curriculum integration. From the statement, “...Encourages teachers to participate in community activities that promote environmental or climate care and

awareness.” yielded the highest mean score ( $M=4.57$ ,  $SD=0.54$ ) and was remarked as Strongly Agree. On the other hand, “...Conducts research activities on environment and climate change.” received the lowest mean score of responses ( $M=4.36$ ,  $SD=0.75$ ) yet was remarked as Strongly Agree.

The level of climate change education of Stand-alone Senior High Schools in terms of curriculum integration attained a weighted mean score of 4.48 and a standard deviation of 0.51. Therefore, climate change education in terms of curriculum integration was Very Highly Implemented. Here, the research reveals a very high perception of encouragement for community activities particularly by teachers to promote environmental or climate care. However, while there is an agreement on the importance of conducting research, there may be less emphasis or fewer opportunities for such activities within the school setting compared to community engagement initiatives. Climate change education is very highly implemented in Stand-alone SHS in terms of curriculum integration.

**Table 2.** Level of Implementation of Climate Change Education of Stand-alone Senior High Schools as Perceived by Teachers in terms of Co-Curricular Activities

| The school organization...                                                                                                                                 | MEAN | SD        | REMARKS        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------------|
| ...Organizes co-curricular activities in climate change according to national/international policies and standards of memorandums, orders, and advisories. | 4.58 | 0.64      | Strongly Agree |
| ...Sets clear goals for co-curricular activities for climate actions.                                                                                      | 4.51 | 0.68      | Strongly Agree |
| ...Plans climate change programs and activities well.                                                                                                      | 4.44 | 0.69      | Agree          |
| ...Ensures the participation of students in climate Change activities/programs collectively regardless of their grade level.                               | 4.49 | 0.64      | Strongly Agree |
| ...Gives the students a variety of climate change activities based on their interests.                                                                     | 4.38 | 0.66      | Strongly Agree |
| ...Advocates climate Change actions and campaigns for more student involvement.                                                                            | 4.41 | 0.66      | Strongly Agree |
| ...Ensures participation of students in climate change activities anticipating their future occupations and responsibilities.                              | 4.41 | 0.64      | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                       |      | 4.46      |                |
| <b>Overall SD</b>                                                                                                                                          |      | 0.57      |                |
| <b>Verbal Interpretation</b>                                                                                                                               |      | Very High |                |

Table 2 reveals the level of climate change education of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of co-curricular activities. From the statements, “...Organizes co-curricular activities in climate change according to national/international policies and standards of memorandums, orders, and advisories.” yielded the highest mean score ( $M=4.58$ ,  $SD=0.64$ ) and was remarked as Strongly Agree. On the other hand, “...Gives the students a variety of climate change activities based on their interests.” received the lowest mean score of responses ( $M=4.38$ ,  $SD=0.66$ ) yet was remarked as Strongly Agree.

The level of climate change education of Stand-alone Senior High Schools in terms of co-curricular activities attained a weighted mean score of 4.46 and a standard deviation of 0.57. Therefore, climate change education in terms of co-curricular activities was Very Highly Implemented. Teachers strongly agree with the aspect of climate change education particularly those initiated co-curricular activities under national/international policies and standards. However, there may be room for improvement in flexibility, differentiated, and interesting climate change activities that can engage students even further. Nevertheless, climate change education in terms of co-curricular activities is very highly implemented indicating Stand-alone SHS incorporates extracurricular activities or programs, particularly as part of climate change education.

**Table 3.** Level of Implementation of Climate Change Education of Stand-alone Senior High Schools as Perceived by Teachers in terms of Stakeholder Involvement

| The school organization...                                                                                                                                                          | MEAN | SD        | REMARKS        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------------|
| ...Assists the school community in sourcing out funds for students to be able to participate in climate change education Programs.                                                  | 4.46 | 0.72      | Strongly Agree |
| ...Takes part in the school maintenance including Brigada Eskwela by extending some of the needed resources for environmental activities.                                           | 4.55 | 0.54      | Strongly Agree |
| ...Shows immediacy in school and community stakeholders' participation in the conduct of different official activities including evaluations, monitoring, inspections, etc.         | 4.45 | 0.60      | Strongly Agree |
| ...Encourages positive interaction among the youth with the supervision of community volunteers and school operations.                                                              | 4.46 | 0.67      | Strongly Agree |
| ...Participates in the school activities directed towards the reduction of illiteracy in schools especially when intervention programs and recovery programs are being implemented. | 4.46 | 0.60      | Strongly Agree |
| ...Coordinates school-parent governance or councils, especially during greening activities and other climate-related programs.                                                      | 4.47 | 0.61      | Strongly Agree |
| ...Engages civic organizations including government, climate change organizations, and other volunteering organizations in the strengthening of program implementations.            | 4.42 | 0.65      | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                                                |      | 4.47      |                |
| <b>Overall SD</b>                                                                                                                                                                   |      | 0.50      |                |
| <b>Verbal Interpretation</b>                                                                                                                                                        |      | Very High |                |

Table 3 confirms the level of climate change education of Stand-alone Senior High Schools in the Schools Division of Laguna as perceived by teachers in terms of stakeholder involvement. Given from the statements, “...Takes part in the school maintenance including Brigada Eskwela by extending some of the needed resources for environmental activities.” yielded the highest mean score ( $M=4.55$ ,  $SD=0.54$ ) and was remarked as Strongly Agree among the statements. However, “...Engages civic organizations including government, climate change organizations, and other volunteering organizations in the strengthening of program implementations.” received the lowest mean score of responses ( $M=4.42$ ,  $SD=0.65$ ) yet was remarked as Strongly Agree.

The level of climate change education of Stand-alone Senior High Schools in terms of stakeholder involvement attained a weighted mean score of 4.47 and a standard deviation of 0.50. Therefore, climate change education in terms of stakeholder involvement was Very Highly Implemented. This suggests that teachers very highly acknowledge and participate in activities like in Brigada Eskwela aimed at maintaining the school environment, emphasizing a strong commitment to environmental sustainability within the school community. However, it also highlights the potential for further leveraging external partnerships to strengthen climate change education programs and their implementation within Stand-alone Senior High Schools in the Division of Laguna.

**Table 4.** Level of Implementation of Climate Change Education of Stand-alone Senior High Schools as Perceived by Teachers in terms of Environmental Awareness

| The school organization...                                                                                                  | MEAN | SD   | REMARKS        |
|-----------------------------------------------------------------------------------------------------------------------------|------|------|----------------|
| ...Provides implementing rules and regulations for recycling and reusing non-biodegradable materials to lessen solid waste. | 4.62 | 0.56 | Strongly Agree |
| ...Provides a safe space or area for reusable water bottles or tumblers for future usage.                                   | 4.54 | 0.63 | Strongly Agree |
| ...Initiates programs to avoid throwing garbage anywhere and learn the                                                      | 4.57 | 0.59 | Strongly       |

|                                                                                                                   |           |      |                |
|-------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| <i>science of the segregation of solid wastes.</i>                                                                |           |      | Agree          |
| <i>...Employs environmental activities including tree planting in vacant areas inside and outside the school.</i> | 4.53      | 0.59 | Strongly Agree |
| <i>...Organizes an environmental forum or symposium for teachers and students.</i>                                | 4.43      | 0.71 | Strongly Agree |
| <i>...Supports initiatives and programs on environmental conservation like the National Greening Program.</i>     | 4.58      | 0.56 | Strongly Agree |
| <i>...Discusses publicly about environmental issues and concerns that confront the school and community.</i>      | 4.48      | 0.65 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                              | 4.53      |      |                |
| <b>Overall SD</b>                                                                                                 | 0.49      |      |                |
| <b>Verbal Interpretation</b>                                                                                      | Very High |      |                |

Table 4 indicates the level of climate change education of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of environmental awareness. In light of the statements, “*...Provides implementing rules and regulations for recycling and reusing non-biodegradable materials to lessen solid waste.*” granted the highest mean score ( $M=4.62$ ,  $SD=0.56$ ) and was remarked as Strongly Agree. However, “*...Organizes an environmental forum or symposium for teachers and students.*” received the lowest mean score of responses ( $M=4.43$ ,  $SD=0.71$ ) yet was remarked as Strongly Agree.

The level of climate change education of Stand-alone Senior High Schools in terms of environmental awareness attained a weighted mean score of 4.53 and a standard deviation of 0.49. For that reason, climate change education in terms of environmental awareness was Very Highly Implemented. The results show that the school organization very highly value initiatives aimed at reducing solid waste through practical measures like recycling and reusing materials, highlighting a strong commitment to environmental conservation within the school environment. To further maintain and strengthen climate change education in terms of environmental awareness, engagement, and participation in broader educational initiatives such as forums or symposiums both for teachers and students are crucial.

**Table 5.** Level of Implementation of Climate Change Education of Stand-alone Senior High Schools as Perceived by Teachers in terms of Educational Resources

| The school organization...                                                                                                                             | MEAN      | SD   | REMARKS        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| <i>...Provides many educational pages for teachers and students on Earth Sciences, including climate Change.</i>                                       | 4.45      | 0.59 | Strongly Agree |
| <i>...Provides learning activities, curriculum materials, and multimedia resources for teaching climate and energy.</i>                                | 4.43      | 0.61 | Strongly Agree |
| <i>...Engages resource relevance to students as they facilitate students' connections to the outdoors and home communities.</i>                        | 4.43      | 0.63 | Strongly Agree |
| <i>...Provides NASA-Reviewed collection of resources on Earth and Space science for teachers and students.</i>                                         | 4.28      | 0.74 | Strongly Agree |
| <i>...Maps educational resources that integrate information on adopting climate change in teaching and learning materials.</i>                         | 4.27      | 0.76 | Strongly Agree |
| <i>...Provides engaging activities, interactive features, and exciting articles addressing climate change concepts and principles.</i>                 | 4.38      | 0.71 | Strongly Agree |
| <i>...Provides resources for lesson planning on topics for environmental and ecological systems, understanding renewable energy, and conservation.</i> | 4.41      | 0.63 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                   | 4.38      |      |                |
| <b>Overall SD</b>                                                                                                                                      | 0.56      |      |                |
| <b>Verbal Interpretation</b>                                                                                                                           | Very High |      |                |



Table 5 reveals the level of climate change education of Stand-alone Senior High Schools in the Schools Division of Laguna as perceived by teachers in terms of educational resources. Given from the statements, “...Provides many educational pages for teachers and students on Earth Sciences, including climate Change.” yielded the highest mean score ( $M=4.45$ ,  $SD=0.59$ ) and was remarked as Strongly Agree. On the other hand, “...Maps educational resources that integrate information on adopting climate change in teaching and learning materials.” received the lowest mean score of responses ( $M=4.27$ ,  $SD=0.76$ ) yet was also remarked as Strongly Agree.

Nevertheless, all statements were remarked as Agree. The level of climate change education of Stand-alone Senior High Schools in terms of educational resources attained a weighted mean score of 4.38 and a standard deviation of 0.56. Therefore, climate change education in terms of educational resources was Very Highly Implemented. The study on educational resources discusses a positive response for the school organization regarding the availability of educational resources related to climate Change. Meanwhile, it also underscores the need for further attention to integrating climate change information more effectively into teaching and learning materials or resources.

In conclusion, understanding the complex relationships involving individuals and the environment in the larger picture of climate change is critical for a better-informed society. Schools play an important role in incorporating climate objectives and resources into their curriculum and resources. Schools, as educational organizations, have a distinctive and critical role in participating in this effort by including climate action.

#### **Level of Implementation of School Disaster Management of Stand-alone Senior High Schools in the Schools Division of Laguna as Perceived by Teachers**

This second section discusses the statement of the problem number one (2), what is the level of implementation of school disaster management of Stand-alone Senior High Schools in the Division of Laguna in terms of disaster prevention, disaster mitigation, disaster preparedness, disaster response, and disaster recovery.

The tables show the statements, mean scores, standard deviations, and remarks. Mean score and standard deviations obtained from the points given by the respondents for each statement can be remarked as strongly agree, agree, moderately agree, disagree, and strongly disagree. Moreover, from the remarks given, the verbal interpretations can be determined as very high, high, moderate, low, and very low.

The following discussion presents the level of implementation of school disaster management in terms of disaster prevention is analyzed and determined based from the gathered and organized data from teacher-respondents.

**Table 6.** Level of Implementation of School Disaster Management of Stand-alone Senior High Schools as Perceived by Teachers in terms of Disaster Prevention

| The school organization...                                                         | MEAN | SD   | REMARKS        |
|------------------------------------------------------------------------------------|------|------|----------------|
| ...Evaluates the environment and recognizes the potential hazards comprehensively. | 4.60 | 0.57 | Strongly Agree |
| ...Recognizes potential hazards and information proactively.                       | 4.45 | 0.58 | Strongly Agree |
| ...Plans for the intervention of the identified specific hazards.                  | 4.49 | 0.59 | Strongly Agree |
| ...Plans the implementation of safekeeping of the educational resources.           | 4.53 | 0.57 | Strongly Agree |
| ...Promotes awareness of the identified hazards to strengthen disaster prevention. | 4.57 | 0.65 | Strongly Agree |
| ...Explains the implementation of disaster prevention and its significance.        | 4.62 | 0.57 | Strongly Agree |
| ...Ensures the implementation of the school disaster Prevention Plan.              | 4.58 | 0.57 | Strongly       |



|                              |           |
|------------------------------|-----------|
|                              | Agree     |
| <b>Weighted Mean</b>         | 4.55      |
| <b>Overall SD</b>            | 0.47      |
| <b>Verbal Interpretation</b> | Very High |

Table 6 conveys the level of school disaster management of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of disaster prevention. The statement “...Explains the implementation of disaster prevention and its significance.” yielded the highest mean score ( $M=4.62$ ,  $SD=0.57$ ) and was remarked as Strongly Agree. On the other hand, “...Recognizes potential hazards and information proactively.” received the lowest mean score of responses ( $M=4.45$ ,  $SD=0.58$ ) yet was remarked as Strongly Agree.

The level of school disaster management of Stand-alone Senior High Schools in terms of disaster prevention attained a weighted mean score of 4.55 and a standard deviation of 0.47. Therefore, school disaster management in terms of disaster prevention was Very Highly Implemented. The findings feature the strength of disaster prevention efforts within Stand-alone SHS particularly in terms of communicating the significance of disaster preventive measures. Conversely, the study shows areas for potential improvement, especially in enhancing proactive hazard recognition and information dissemination strategies.

**Table 7.** Level of Implementation of School Disaster Management of Stand-alone Senior High Schools as Perceived by Teachers in terms of Disaster Mitigation

| The school organization...                                                                                                     | MEAN | SD        | REMARKS        |
|--------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------------|
| ...Establishes a school disaster Risk Management Team comprised of teaching and non-teaching personnel.                        | 4.66 | 0.56      | Strongly Agree |
| ...Enforces student engagement programs and organizations including the student-led School Watching Team.                      | 4.57 | 0.61      | Strongly Agree |
| ...Supervises hazard mapping activities inside the school being led by the School DRRM Coordinator.                            | 4.54 | 0.61      | Strongly Agree |
| ...Plots the school-level hazard map and evacuation plan for posting of intervention.                                          | 4.56 | 0.61      | Strongly Agree |
| ...Integrates school disaster Reduction and Management in the School Improvement Plan/AIP/APP.                                 | 4.56 | 0.59      | Strongly Agree |
| ...Identifies elderly, young children, persons with disability, and vulnerabilities to prioritize in the evacuation protocols. | 4.48 | 0.66      | Strongly Agree |
| ...Establishes a School Reunification Plan for students and parents in times of disaster/emergency.                            | 4.41 | 0.67      | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                           |      | 4.54      |                |
| <b>Overall SD</b>                                                                                                              |      | 0.48      |                |
| <b>Verbal Interpretation</b>                                                                                                   |      | Very High |                |

Table 7 presents the level of school disaster management of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of disaster mitigation. The statement “...Establishes a school disaster Risk Management Team comprised of teaching and non-teaching personnel.” yielded the highest mean score ( $M=4.66$ ,  $SD=0.56$ ) and was remarked as Strongly Agree. On the other hand, “...Establishes a School Reunification Plan for Students and Parents in Times of Disaster/Emergency.” received the lowest mean score of responses ( $M=4.41$ ,  $SD=0.67$ ) yet was remarked as Strongly Agree.

The level of school disaster management of Stand-alone Senior High Schools in terms of disaster mitigation attained a weighted mean score of 4.54 and a standard deviation of 0.48. Therefore, school disaster management in terms of disaster mitigation was Very Highly Implemented. This indicates that school

organizations provide a dedicated SDRM team comprising both teaching and non-teaching personnel as essential for effective disaster preparedness and response. Particularly for Reunification Plans, there are still further improvements to enhance the school disaster management of Stand-alone Senior High Schools in terms of disaster mitigation.

**Table 8.** Level of Implementation of School Disaster Management of Stand-alone Senior High Schools as Perceived by Teachers in terms of Disaster Preparedness

| The school organization...                                                                                                                | MEAN      | SD   | REMARKS        |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| <i>...Ensures the establishment of early warning systems for specific hazards and dissemination of preventive measures in the school.</i> | 4.60      | 0.56 | Strongly Agree |
| <i>...Ensures the updated hazard-specific contingency plan (Fire, Flood, Typhoon).</i>                                                    | 4.50      | 0.63 | Strongly Agree |
| <i>...Communicates updated emergency contact numbers.</i>                                                                                 | 4.50      | 0.68 | Strongly Agree |
| <i>...Conducts multi-hazard and evacuation procedures or drills (earthquake drills, fire drills) continuously.</i>                        | 4.51      | 0.64 | Strongly Agree |
| <i>...Integrates Disaster Resilience and Reduction Management in the School Curriculum.</i>                                               | 4.51      | 0.58 | Strongly Agree |
| <i>...Conducts DRRM-related training for school personnel and learners.</i>                                                               | 4.38      | 0.76 | Strongly Agree |
| <i>...Reiterates DRRM-related references and advisories or orders on class suspensions (DepEd Order No. 37, S. 2022).</i>                 | 4.62      | 0.59 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                      | 4.52      |      |                |
| <b>Overall SD</b>                                                                                                                         | 0.50      |      |                |
| <b>Verbal Interpretation</b>                                                                                                              | Very High |      |                |

Table 8 presents the level of school disaster management of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of disaster preparedness. From the statements, “...Reiterates DRRM-related references and advisories or orders on class suspensions (DepEd Order No. 37, S. 2022).” yielded the highest mean score ( $M=4.62$ ,  $SD=0.59$ ) and was remarked as Strongly Agree. Nevertheless, “...Conducts DRRM-related training for school personnel and learners.” received the lowest mean score of responses ( $M=4.38$ ,  $SD=0.76$ ) yet was the only statement remarked as Strongly Agree.

The level of school disaster management of Stand-alone Senior High Schools in terms of disaster preparedness attained a weighted mean score of 4.52 and a standard deviation of 0.50. Therefore, school disaster management in terms of disaster preparedness was Very Highly Implemented. Teachers believe that school organizations have consistency in disseminating SDRRM-related information, such as guidelines for class suspensions during disasters particularly as stipulated from DepEd Order No. 37, s. 2022). Still, the findings highlight that school organization leaders should have a potential focus area for future initiatives aimed at reinforcing disaster preparedness efforts.

**Table 9.** Level of Implementation of School Disaster Management of Stand-alone Senior High Schools as Perceived by Teachers in terms of Disaster Response

| The school organization...                                                                           | MEAN | SD   | REMARKS        |
|------------------------------------------------------------------------------------------------------|------|------|----------------|
| <i>...Provides the needed assistance to personnel and learners safely.</i>                           | 4.68 | 0.51 | Strongly Agree |
| <i>...Executes evacuation procedures on personnel and learners in times of emergencies properly.</i> | 4.64 | 0.54 | Strongly Agree |
| <i>...Carries out the student-parent reunification plan in times of disaster.</i>                    | 4.43 | 0.70 | Strongly Agree |

|                                                                                        |           |      |                |
|----------------------------------------------------------------------------------------|-----------|------|----------------|
| ...Coordinates with proper agencies for reference and assistance in times of disaster. | 4.56      | 0.61 | Agree          |
| ...Reports damages on RaDar of non-academic infrastructures/facilities.                | 4.50      | 0.67 | Strongly Agree |
| ...Reports damages on RaDar of learning and teaching resources.                        | 4.46      | 0.66 | Strongly Agree |
| ...Reports affected personnel and learners (Casualties and Displaced).                 | 4.55      | 0.66 | Strongly Agree |
| <b>Weighted Mean</b>                                                                   | 4.55      |      |                |
| <b>Overall SD</b>                                                                      | 0.49      |      |                |
| <b>Verbal Interpretation</b>                                                           | Very High |      |                |

Table 9 presents the level of school disaster management of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of disaster response. The statement, “...Provides the needed assistance to personnel and learners safely.” yielded the highest mean score ( $M=4.68$ ,  $SD=0.51$ ) and was remarked as Strongly Agree. On the other hand, “...Carries out the student-parent reunification plan in times of disaster.” received the lowest mean score of responses ( $M=4.43$ ,  $SD=0.70$ ) and was remarked as Strongly Agree.

The level of school disaster management of Stand-alone Senior High Schools in terms of disaster response attained a weighted mean score of 4.55 and a standard deviation of 0.49. Therefore, school disaster management in terms of disaster response was Very Highly Implemented. This shows that there is a very high level of disaster responsiveness within the schools. While the component of student-parent reunification plans is slightly lower compared to others, teachers still perceive a strong commitment to reunifying students with their parents or guardians in the event of a disaster.

**Table 10.** Level of Implementation of School Disaster Management of Stand-alone Senior High Schools as Perceived by Teachers in terms of Disaster Recovery

| The school organization...                                                                                             | MEAN      | SD   | REMARKS        |
|------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| ...Implements the disaster recovery rehabilitation plans or procedures as indicated in the Learning Continuity Plan.   | 4.55      | 0.58 | Strongly Agree |
| ...Provides recovery and psychosocial support to students and personnel.                                               | 4.45      | 0.67 | Strongly Agree |
| ...Ensures the needs of school personnel and learners including health kits.                                           | 4.57      | 0.58 | Strongly Agree |
| ...Ensures the needed approved Temporary Learning Space (TLS) due to classroom shortage.                               | 4.41      | 0.73 | Strongly Agree |
| ...Ensures minor and major repairs of damaged education facilities for continuous delivery of quality basic education. | 4.55      | 0.55 | Strongly Agree |
| ...Ensures continuous delivery of basic teaching-learning services through alternative delivery modes.                 | 4.55      | 0.58 | Strongly Agree |
| ...Collaborates with stakeholders to provide further assistance to the affected school personnel and learners.         | 4.55      | 0.67 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                   | 4.52      |      |                |
| <b>Overall SD</b>                                                                                                      | 0.48      |      |                |
| <b>Verbal Interpretation</b>                                                                                           | Very High |      |                |

Table 10 presents the level of school disaster management of Stand-alone Senior High Schools in the

Schools Division of Laguna as perceived by teachers in terms of disaster recovery. From the statements, “...Ensures the needs of school personnel and learners including health kits.” yielded the highest mean score ( $M=4.57$ ,  $SD=0.58$ ) and was remarked as Strongly Agree. On the other hand, “...Ensures the needed approved Temporary Learning Space (TLS) due to classroom shortage.” received the lowest mean score of responses ( $M=4.41$ ,  $SD=0.73$ ) and was remarked as Strongly Agree.

The level of school disaster management of Stand-alone Senior High Schools in terms of disaster response attained a weighted mean score of 4.52 and a standard deviation of 0.48. Therefore, the organizational resilience in terms of curriculum integration was Very High. Here, teachers perceived that the school organization is highly effective in ensuring the availability of essential health resources in the event of a disaster. This also indicates a strong level of confidence among teachers regarding the school's preparedness in this aspect. However, while there is generally positive sentiment toward the provisions of Temporary Learning Space (TLS), there may be some concerns or challenges related to its implementation, possibly due to limitations in resources or infrastructures. Overall, the school disaster management of Stand-alone SHS in terms of disaster recovery is generally effective but there are areas for improvement, particularly in ensuring adequate temporary learning spaces during emergencies. These insights can inform decision-making and resource allocation to further enhance disaster preparedness and response efforts in the administrative and managerial part of school organizations.

The study emphasized the importance of comprehensive health services in schools in ensuring students' physical, mental, and emotional well-being and creating a supportive atmosphere that improves kids' overall health and well-being. As a result, climate change education as well as educational disaster management may be smoothly incorporated into these sustainable development and health initiatives.

### ***Level of Organizational Resilience of Stand-alone Senior High Schools in the Division of Laguna as Perceived by Teachers***

This third section discusses the statement of the problem number one (3), what is the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna in terms of programs & strategies, business system, organizational culture, leadership & management, monitoring & reporting, stakeholder engagement, resources & infrastructure, and risk management planning.

The tables show the statements, mean scores, standard deviations, and remarks. Mean score and standard deviations obtained from the points given by the respondents for each statement can be remarked as strongly agree, agree, moderately agree, disagree, and strongly disagree. Moreover, from the remarks given, the verbal interpretations can be determined as very high, high, moderate, low, and very low.

The following discussion presents the level of organizational resilience in terms of programs & strategies is analyzed and determined based on the gathered and organized data from teacher-respondents.

**Table 11.** *Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Programs and Strategies*

| The school organization...                                                                                                                                                             | MEAN | SD   | REMARKS        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|
| ...Encourages programs and strategies to equip members with knowledge and pertinent protocols to maintain safety in the facility.                                                      | 4.59 | 0.61 | Strongly Agree |
| ...Uses feedback on previous programs and strategies concerning disaster management to carry out safe and resilient future programs/strategies.                                        | 4.50 | 0.63 | Strongly Agree |
| ...Acts to ensure the organizational performance is ahead of the curve strategically.                                                                                                  | 4.52 | 0.61 | Strongly Agree |
| ...Provides program policies and procedures developed, documented, reviewed, and validated by partner agencies / DepEd officials concerning disaster preparedness and climate actions. | 4.52 | 0.59 | Strongly Agree |
| ...Encourages appropriate roles for members to make decisions related to their work and authority is delegated to enable a disaster/emergency                                          | 4.49 | 0.63 | Strongly Agree |

response.

|                                                                                                                                                   |      |           |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------------|
| <i>...Allows participation of members in simulations or scenarios designed in programs/strategies to practice disaster response arrangements.</i> | 4.59 | 0.62      | Strongly Agree |
| <i>...Provides continuous evaluation of strategies and work programs in reaching organizational goals during times of disasters/emergencies.</i>  | 4.53 | 0.63      | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                              |      | 4.54      |                |
| <b>Overall SD</b>                                                                                                                                 |      | 0.52      |                |
| <b>Verbal Interpretation</b>                                                                                                                      |      | Very High |                |

Table 11 reveals the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of programs & strategies. From the statements, “...Encourages programs and strategies to equip members with knowledge and pertinent protocols to maintain safety in the facility.” yielded the highest mean score ( $M=4.59$ ,  $SD=0.61$ ) together with “...Allows participation of members in simulations or scenarios designed in programs/strategies to practice disaster response arrangements.” ( $M=4.59$ ,  $SD=0.62$ ) was also remarked as Strongly Agree. On the other hand, “...Uses feedback on previous programs and strategies concerning disaster management to carry out safe and resilient future programs/strategies.” received the lowest mean score of responses ( $M=4.50$ ,  $SD=0.63$ ) and was remarked as Strongly Agree.

The level of organizational resilience of Stand-alone Senior High Schools in terms of programs & strategies attained a weighted mean score of 4.54 and a standard deviation of 0.52. Therefore, the organizational resilience in terms of curriculum integration was Very High. The findings suggest that teachers perceive the existing programs and strategies of Stand-alone SHS as effective in enhancing organizational resilience. This is very true in equipping members with knowledge and protocols for safety and facilitating practice disaster response training. However, future efforts to strengthen organizational resilience can be made by further leveraging feedback mechanisms to enhance the effectiveness of disaster management and climate actions.

**Table 12.** Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Business System

| The school organization...                                                                                                              | MEAN | SD        | REMARKS        |
|-----------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------------|
| <i>...Ensures that the school adopts and shifts to a learning modality appropriate for classes affected by disasters automatically.</i> | 4.62 | 0.55      | Strongly Agree |
| <i>...Provides appropriate balance between short- and long-term priorities before, during, and after disasters/emergencies.</i>         | 4.46 | 0.64      | Strongly Agree |
| <i>...Promotes understanding of the needed resources to operate successfully before, during, and after disasters/emergencies.</i>       | 4.46 | 0.66      | Strongly Agree |
| <i>...Ensures to include budget allocation needed for funding for preparedness and response referring to disasters/emergencies.</i>     | 4.41 | 0.67      | Strongly Agree |
| <i>...Operates financial aspects when developing organizational resilience activities.</i>                                              | 4.36 | 0.65      | Strongly Agree |
| <i>...Identifies and manages vulnerable groups of schools and their stakeholders.</i>                                                   | 4.48 | 0.63      | Strongly Agree |
| <i>...Promotes the importance of coordination and prompt response in times of disaster/emergency.</i>                                   | 4.52 | 0.61      | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                    |      | 4.47      |                |
| <b>Overall SD</b>                                                                                                                       |      | 0.54      |                |
| <b>Verbal Interpretation</b>                                                                                                            |      | Very High |                |

Table 12 indicates the level of organizational resilience of Stand-alone Senior High Schools in the

Division of Laguna as perceived by teachers in terms of the business system. From the statements, “...Ensures that the school adopts and shifts to a learning modality appropriate for classes affected by disasters automatically.” yielded the highest mean score ( $M=4.62$ ,  $SD=0.55$ ) and was remarked as Strongly Agree. On the other hand, “...Operates financial aspects when developing organizational resilience activities.” received the lowest mean score of responses ( $M=4.36$ ,  $SD=0.65$ ) and was also remarked as Strongly Agree.

The level of organizational resilience of Stand-alone Senior High Schools in terms of business system attained a weighted mean score of 4.47 and a standard deviation of 0.54. Therefore, the organizational resilience in terms of the business system was Very High. These findings indicate a general high level of agreement among teachers regarding various statements related to organizational resilience within the said context. Here, there is a strong support for ensuring the adoption of appropriate learning modalities for classes affected by disasters. However, there appears to be a slightly lower level of agreement regarding the involvement of financial aspects in the development of organizational resilience activities.

**Table 13.** Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Organizational Culture

| The school organization...                                                                                                                                     | MEAN      | SD   | REMARKS        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| ...Promotes a full understanding of the impact brought by natural disasters.                                                                                   | 4.57      | 0.62 | Strongly Agree |
| ...Provides opportunities to listen for organizational problems needed to prepare for better disaster and calamity responses.                                  | 4.52      | 0.63 | Strongly Agree |
| ...Instills the feeling of responsibility and accountability before, during, and after the crisis.                                                             | 4.50      | 0.63 | Strongly Agree |
| ...Promotes an excellent sense of teamwork in dealing with disaster and climate emergencies.                                                                   | 4.44      | 0.59 | Strongly Agree |
| ...Shows flexibility in working out with people with more expertise to respond in disaster and climate recovery whether in ordinary or complicated situations. | 4.47      | 0.58 | Strongly Agree |
| ...Encourages personnel to move between different departments or try different roles to explore different angles of disaster preparedness.                     | 4.41      | 0.65 | Strongly Agree |
| ...Provides space for members to be able to create their work environment following safety building protocols.                                                 | 4.55      | 0.61 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                           | 4.49      |      |                |
| <b>Overall SD</b>                                                                                                                                              | 0.52      |      |                |
| <b>Verbal Interpretation</b>                                                                                                                                   | Very High |      |                |

Table 13 highlights the level of organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna as perceived by teachers in terms of the organizational culture. From the statements, “...Promotes a full understanding of the impact brought by natural disasters.” yielded the highest mean score ( $M=4.57$ ,  $SD=0.62$ ) and was remarked as Strongly Agree. On the other hand, “...Encourages personnel to move between different departments or try different roles to explore different angles of disaster preparedness.” received the lowest mean score of responses ( $M=4.41$ ,  $SD=0.65$ ) and was also remarked as Strongly Agree.

The level of organizational resilience of Stand-alone Senior High Schools in terms of organizational culture attained a weighted mean score of 4.49 and a standard deviation of 0.52. Therefore, the organizational resilience in terms of the organizational culture was Very High. It depicts a robust emphasis within the organizational culture on comprehensively understanding the effects of natural disasters. It also indicates a high level of awareness and acknowledgement of the potential consequences of such events. On the other hand, ‘though the encouragement of personnel obtained a positive, yet lower score compared to others, it suggests that there may be room for improvement in fostering a culture of cross-departmental collaboration and exploration of various perspectives on disaster preparedness.



**Table 14.** Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Leadership and Management

| The school organization...                                                                                                                                       | MEAN | SD        | REMARKS        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------------|
| <i>...Manages what is happening in its area to have an early warning of emerging disasters and climate risks proactively.</i>                                    | 4.48 | 0.60      | Strongly Agree |
| <i>...Promotes a clear picture of professionalism on what the roles would be in emergencies.</i>                                                                 | 4.48 | 0.61      | Strongly Agree |
| <i>...Accepts decisions made by responsible members in the management of disasters and climate risks.</i>                                                        | 4.43 | 0.59      | Strongly Agree |
| <i>...Ensures to give reliable and verified information to school personnel for awareness relative to disaster response.</i>                                     | 4.47 | 0.60      | Strongly Agree |
| <i>...Informs the members of their roles and responsibilities according to protocols and measures before, during, and after disaster or climate emergencies.</i> | 4.44 | 0.62      | Strongly Agree |
| <i>...Improvises decision-making procedures in dealing with disaster response and environmental measures to sustain safety in the facility.</i>                  | 4.44 | 0.61      | Strongly Agree |
| <i>...Sets up long-term plans including psychosocial support for future setbacks and emerging problems.</i>                                                      | 4.48 | 0.63      | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                             |      | 4.46      |                |
| <b>Overall SD</b>                                                                                                                                                |      | 0.51      |                |
| <b>Verbal Interpretation</b>                                                                                                                                     |      | Very High |                |

Table 14 highlights the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of leadership & management. From the statements, “*...Manages what is happening in its area to have an early warning of emerging disasters and climate risks proactively.*” yielded the highest mean score ( $M=4.48$ ,  $SD=0.60$ ) and was remarked as Strongly Agree together with “*...Promotes a clear picture of professionalism on what the roles would be in emergencies.*” ( $M=4.48$ ,  $SD=0.61$ ) and “*...Sets up long-term plans including psychosocial support for future setbacks and emerging problems.*” ( $M=4.48$ ,  $S=0.63$ ). On the other hand, “*...Accepts decisions made by responsible members in the management of disasters and climate risks.*” received the lowest mean score of responses ( $M=4.43$ ,  $SD=0.59$ ) and was also remarked as Strongly Agree.

The level of organizational resilience of Stand-alone Senior High Schools in terms of leadership & management attained a weighted mean score of 4.46 and a standard deviation of 0.51. Therefore, the organizational resilience in terms of leadership & management was Very High. The data shows that teachers strongly perceive proactive measures, clear role descriptions during emergencies, and long-term planning with psychosocial support as an integral aspects of leadership approach toward disaster preparedness and resilience-building. Meanwhile, the lowest mean average pertains to a need for further emphasis on fostering a culture of trust and delegation in decision-making processes related to disaster management.

**Table 15.** Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Monitoring and Reporting

| The school organization...                                                                     | MEAN | SD   | REMARKS        |
|------------------------------------------------------------------------------------------------|------|------|----------------|
| <i>...Assists in response promptly during the time of disasters/emergencies.</i>               | 4.62 | 0.57 | Strongly Agree |
| <i>...Seeks suggestions and evaluations from experts on disaster response.</i>                 | 4.50 | 0.62 | Strongly Agree |
| <i>...Identifies the causes of further risks and damages brought by disasters/emergencies.</i> | 4.52 | 0.65 | Strongly Agree |



|                                                                                                                                            |           |      |                |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| <i>...Upskills members to increase resilience to lessen the impacts of disasters/emergencies.</i>                                          | 4.51      | 0.62 | Strongly Agree |
| <i>...Provides reporting of resources and support needed by the organizations to improve their disaster response and recovery efforts.</i> | 4.52      | 0.59 | Strongly Agree |
| <i>...Involves stakeholders in the monitoring and reporting of the current resource allocation process in the organization.</i>            | 4.45      | 0.66 | Strongly Agree |
| <i>...Reviews resource allocation processes in achieving the organization's resilience.</i>                                                | 4.49      | 0.59 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                       | 4.51      |      |                |
| <b>Overall SD</b>                                                                                                                          | 0.50      |      |                |
| <b>Verbal Interpretation</b>                                                                                                               | Very High |      |                |

Table 15 reveals the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of monitoring & reporting. Given from the statements, “*...Assists in response promptly during the time of disasters/emergencies.*” yielded the highest mean score (M=4.62, SD=0.57) and was remarked as Strongly Agree. On the other hand, “*...Involves stakeholders in the monitoring and reporting of the current resource allocation process in the organization.*” received the lowest mean score of responses (M=4.45, SD=0.66) and was also remarked as Strongly Agree.

The level of organizational resilience of Stand-alone Senior High Schools in terms of organizational culture attained a weighted mean score of 4.51 and a standard deviation of 0.50. Therefore, the organizational resilience in terms of the monitoring & reporting was Very High. As data shows, schools are well-prepared and capable of managing crisis situations efficiently. However, engaging stakeholders more actively in decision-making processes related to resource allocation could lead to more effective utilization of resources and better alignment with organizational goals. Generally, the findings suggest that while stakeholders are involved to some extent, there might be room for improvement in engaging them more effectively in the resource allocation process.

**Table 16.** Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Stakeholders' Engagement

| The school organization...                                                                                                                                     | MEAN      | SD   | REMARKS        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| <i>...Launches coordinated responses to disruptive events by providing cross-organizational communication.</i>                                                 | 4.51      | 0.62 | Strongly Agree |
| <i>...Maintains close and active coordination with stakeholders to support needed resources for disaster preparedness and response.</i>                        | 4.50      | 0.59 | Strongly Agree |
| <i>...Reviews locally relevant disasters and risk management issues with community stakeholders regularly.</i>                                                 | 4.42      | 0.62 | Strongly Agree |
| <i>...Provides and manages links with other organizations in the community for effective disaster preparedness and response.</i>                               | 4.42      | 0.67 | Strongly Agree |
| <i>...Maintains stakeholder involvement to assist in prompt response to impending emergencies.</i>                                                             | 4.37      | 0.66 | Strongly Agree |
| <i>...Shares policies and procedures developed, documented, reviewed, and validated by multiple experts on school disaster management and climate actions.</i> | 4.45      | 0.65 | Strongly Agree |
| <i>...Coordinates with local disaster management officials for reliable disaster and climate emergency protocols.</i>                                          | 4.51      | 0.64 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                           | 4.45      |      |                |
| <b>Overall SD</b>                                                                                                                                              | 0.54      |      |                |
| <b>Verbal Interpretation</b>                                                                                                                                   | Very High |      |                |

Table 16 highlights the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of stakeholders' engagement. From the statements, "...Launches coordinated responses to disruptive events by providing cross-organizational communication." yielded the highest mean score ( $M=4.51$ ,  $SD=0.62$ ) and was remarked as Strongly Agree. This was followed by "...Coordinates with local disaster management officials for reliable disaster and climate emergency protocols." with a mean score that was remarked as Strongly Agree ( $M=4.51$ ,  $S=0.64$ ). On the other hand, "...Provides and manages links with other organizations in the community for effective disaster preparedness and response." received the lowest mean score of responses with a remark of Strongly Agree ( $M=4.41$ ,  $SD=0.65$ ) together with "...Reviews locally relevant disasters and risk management issues with community stakeholders regularly." ( $M=4.2$ ,  $SD=0.62$ ).

The level of organizational resilience of Stand-alone Senior High Schools in terms of stakeholders' engagement attained a weighted mean score of 4.45 and a standard deviation of 0.54. Therefore, the organizational resilience in terms of the business system was Very High. The responses were gathered from the teachers, and the mean scores along with standard deviations indicate the importance of coordinated responses to disruptive events and coordination with local disaster management officials. This suggests that teachers perceive these aspects as crucial for enhancing organizational resilience. Also, providing and managing links with other organizations in the community and reviewing locally relevant disasters and risk management issues with community stakeholders regularly. Nevertheless, there may be opportunities for improvement in fostering stronger links with external organizations and ensuring regular dialogue with community stakeholders to further strengthen the schools' organizational resilience.

**Table 17.** Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Resources and Infrastructure

| The school organization...                                                                                                                                          | MEAN      | SD   | REMARKS        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| ...Promotes resilience concepts and mobilizes the resources and capacity of various members to tackle societal issues.                                              | 4.52      | 0.66 | Strongly Agree |
| ...Identifies various resources that are significant for resilience, such as social capital, knowledge, and financial resources.                                    | 4.48      | 0.66 | Strongly Agree |
| ...Considers adaptation and transformation to handle emergencies based on Engineering framings that qualify to safety standards.                                    | 4.50      | 0.66 | Strongly Agree |
| ...Allocates resources rationally to minimize the impacts of disaster damages to school facilities.                                                                 | 4.52      | 0.60 | Strongly Agree |
| ...Provides approaches from different sectors to work together for the security and resilience of infrastructure services in the face of multiple disaster threats. | 4.50      | 0.62 | Strongly Agree |
| ...Emphasizes agility and flexibility in both physical assets and governance in the school.                                                                         | 4.45      | 0.66 | Strongly Agree |
| ...Provides appropriate guidelines and backgrounds required for infrastructural resilience and maintenance.                                                         | 4.52      | 0.61 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                                                | 4.50      |      |                |
| <b>Overall SD</b>                                                                                                                                                   | 0.55      |      |                |
| <b>Verbal Interpretation</b>                                                                                                                                        | Very High |      |                |

Table 17 reveals the level of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna as perceived by teachers in terms of resources & infrastructure. Given from the statements, "...Allocates resources rationally to minimize the impacts of disaster damages to school facilities." yielded the highest mean score ( $M=4.52$ ,  $SD=0.60$ ) and was remarked as Strongly Agree. This was followed by "...Provides appropriate guidelines and backgrounds required for infrastructural resilience and maintenance." ( $M=4.52$ ,  $S=0.61$ ) and "...Promotes resilience concepts and mobilizes the resources and

capacity of various members to tackle societal issues.” (M=4.52, SD=0.66) with the same remark as Strongly Agree. On the other hand, “...Emphasizes agility and flexibility in both physical assets and governance in the school.” received the lowest mean score of responses (M=4.45, SD=0.66) and was also remarked as Strongly Agree.

The level of organizational resilience of Stand-alone Senior High Schools in terms of resources & infrastructure attained a weighted mean score of 4.50 and a standard deviation of 0.55. Therefore, the organizational resilience in terms of the resources & infrastructure was Very High. Overall, the data indicates effective resource allocation, provision of guidelines, and promotion of resilience concepts within the mention schools. However, there may be opportunities to further emphasize agility and flexibility in governance and physical assets to enhance organizational resilience even further.

**Table 18.** Level of Organizational Resilience of Stand-alone Senior High Schools as Perceived by Teachers in terms of Risk Management Planning

| The school organization...                                                                                                             | MEAN      | SD   | REMARKS        |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------|------|----------------|
| ...Addresses the root cause of disaster risks while strengthening the capacities and resources of a system to cope with its impacts.   | 4.60      | 0.62 | Strongly Agree |
| ...Identifies hazards and supports localized policies for intervention to increase organizational resilience.                          | 4.51      | 0.65 | Strongly Agree |
| ...Develops risk management policies as part of a resilience strategy.                                                                 | 4.49      | 0.59 | Strongly Agree |
| ...Establishes structured decision processes, designing systems for both resilience and efficiency to identify the right intervention. | 4.50      | 0.63 | Strongly Agree |
| ...Establishes a strong partnership linkage for potential partners to assist in times of disasters.                                    | 4.49      | 0.64 | Strongly Agree |
| ...Designs and regularly measures KRIs or Key Risk Indicators properly.                                                                | 4.49      | 0.67 | Strongly Agree |
| ...Ensures non-disruptions of school operations to effectively build risk management.                                                  | 4.53      | 0.64 | Strongly Agree |
| <b>Weighted Mean</b>                                                                                                                   | 4.52      |      |                |
| <b>Overall SD</b>                                                                                                                      | 0.53      |      |                |
| <b>Verbal Interpretation</b>                                                                                                           | Very High |      |                |

Table 18 illustrates the level of organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna as perceived by teachers in terms of risk management planning. Given from the statements, “...Addresses the root cause of disaster risks while strengthening the capacities and resources of a system to cope with its impacts.” yielded the highest mean score (M=4.60, SD=0.62) and was remarked as Strongly Agree. On the other hand, “...Designs and regularly measures KRIs or Key Risk Indicators properly.” received the lowest mean score of responses (M=4.45, SD=0.66) together with “...Establishes a strong partnership linkage for potential partners to assist in times of disasters.” (M=4.49, S=0.64) and “...Develops risk management policies as part of a resilience strategy.” With a mean score (M=4.49, S=0.59) that was also marked as Strongly Agree.

The level of organizational resilience of Stand-alone Senior High Schools in terms of risk management planning attained a weighted mean score of 4.52 and a standard deviation of 0.53. Therefore, the organizational resilience in terms of the risk management planning was Very High. Here, the data suggests that there is a perceived emphasis on addressing the fundamental causes of disaster risks and enhancing the school’s capacity to cope with such challenges effectively. While the lowest score still indicates a strong level of agreement, they suggest potential areas for improvement in terms of designing key risk indicators, establishing partnerships, and developing comprehensive risk management policies within the Stand-alone Senior High Schools in the Division of Laguna.

### **Significant Relationship between Climate Change Education and Organizational Resilience of Stand-alone Senior High Schools in the Division of Laguna**

This section discusses the statement of the problem number four (4), is there a significant relationship between climate change education and organizational resilience of Stand-alone Senior High Schools in the Division of Laguna?

The table delve into the results of Pearson correlation analyses conducted to explore the relationships between climate change education and organizational resilience. This present the correlation coefficient, it's associated significance level, and interpretations of implications of the research findings within the context of this study objectives. Through this analysis, this section offer valuable insights into the interplay between these variables and their potential impact on the big body of knowledge about climate change education and school disaster management in promoting organizational resilience of Stand-alone Senior High Schools in the Division of Laguna.

The following discussion elucidates the significant relationship between climate change education and organizational resilience of Stand-alone Senior High Schools in the Division of Laguna. It aims to shed light on the pivotal role of climate change education in enhancing the adaptive capacity and robustness of Senior High Schools in the face of environmental challenges.

**Table 19.** Significant Relationship between climate change education and organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna

| Climate Change Education |                     | Organizational Resilience |                 |                        |                         |                        |                        |                            |                          |
|--------------------------|---------------------|---------------------------|-----------------|------------------------|-------------------------|------------------------|------------------------|----------------------------|--------------------------|
|                          |                     | Programs & Strategies     | Business System | Organizational Culture | Leadership & Management | Monitoring & reporting | Stakeholder Engagement | Resources & Infrastructure | Risk Management Planning |
| Curriculum Integration   | Pearson Correlation | .728**                    | .707**          | .705**                 | .658**                  | .710**                 | .652**                 | .716**                     | .723**                   |
|                          | Sig. (2-tailed)     | .000                      | .000            | .000                   | .000                    | .000                   | .000                   | .000                       | .000                     |
|                          | N                   | 143                       | 143             | 143                    | 143                     | 143                    | 143                    | 143                        | 143                      |
| Co-Curricular Activities | Pearson Correlation | .724**                    | .617**          | .633**                 | .606**                  | .662**                 | .625**                 | .675**                     | .670**                   |
|                          | Sig. (2-tailed)     | .000                      | .000            | .000                   | .000                    | .000                   | .000                   | .000                       | .000                     |
|                          | N                   | 143                       | 143             | 143                    | 143                     | 143                    | 143                    | 143                        | 143                      |
| Stakeholder Involvement  | Pearson Correlation | .634**                    | .607**          | .632**                 | .643**                  | .660**                 | .767**                 | .725**                     | .666**                   |
|                          | Sig. (2-tailed)     | .000                      | .000            | .000                   | .000                    | .000                   | .000                   | .000                       | .000                     |
|                          | N                   | 143                       | 143             | 143                    | 143                     | 143                    | 143                    | 143                        | 143                      |
| Environmental Awareness  | Pearson Correlation | .665**                    | .642**          | .679**                 | .675**                  | .677**                 | .707**                 | .713**                     | .752**                   |
|                          | Sig. (2-tailed)     | .000                      | .000            | .000                   | .000                    | .000                   | .000                   | .000                       | .000                     |
|                          | N                   | 143                       | 143             | 143                    | 143                     | 143                    | 143                    | 143                        | 143                      |
| Educational Resources    | Pearson Correlation | .670**                    | .658**          | .673**                 | .567**                  | .621**                 | .619**                 | .648**                     | .668**                   |
|                          | Sig. (2-tailed)     | .000                      | .000            | .000                   | .000                    | .000                   | .000                   | .000                       | .000                     |
|                          | N                   | 143                       | 143             | 143                    | 143                     | 143                    | 143                    | 143                        | 143                      |
| <b>Scale</b>             |                     | <b>Strength</b>           |                 |                        |                         |                        |                        |                            |                          |
| 0.80 – 1.00              |                     | Very Strong               |                 |                        |                         |                        |                        |                            |                          |
| 0.60 – 0.79              |                     | Strong                    |                 |                        |                         |                        |                        |                            |                          |
| 0.40 – 0.59              |                     | Moderate                  |                 |                        |                         |                        |                        |                            |                          |
| 0.20 – 0.39              |                     | Weak                      |                 |                        |                         |                        |                        |                            |                          |
| 0.00 – 0.19              |                     | Very Weak                 |                 |                        |                         |                        |                        |                            |                          |

Table 19 demonstrates the significant relationship between climate change education and organizational resilience of Stand-alone Senior High Schools in the Division of Laguna.

The curriculum integration, co-curricular activities, stakeholder involvement, environmental awareness, and educational resources of climate change education were observed to have significant relationship with the organizational resilience in terms of programs & strategies, business system, organizational culture, leadership & management, monitoring & reporting stakeholder engagement, resources & infrastructure, and risk management planning. This is based on the computed  $r$  values obtained from the responses as it reveals a Strong to Very Strong Correlation or Relationship ranging from 0.60 to 0.79  $r$  values. Furthermore, the  $p$ -values obtained were less than the significance alpha 0.05, hence there is a significance.

Consequently, the null hypothesis suggesting no significant relationship between the climate change education and organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna is rejected, supporting the presence of a significant association between them. The findings suggest that climate change education is significantly associated with organizational resilience in Stand-alone Senior High Schools in the Schools Division of Laguna. The rejection of the null hypothesis indicates that there is a meaningful association between these two variables, with various components of climate change education contributing to the resilience of the schools' organizational structure and practices. This underscores the importance of integrating climate change education into school curricula and fostering environmental awareness and stakeholder involvement to enhance organizational resilience in the face of environmental challenges.

### ***Significant Relationship between School Disaster Management and Organizational Resilience of Stand-alone Senior High Schools in the Division of Laguna***

This section discusses the statement of the problem number five (5), is there a significant relationship between school disaster management and organizational resilience of Stand-alone Senior High Schools in the Division of Laguna?

The tables delve into the results of Pearson correlation analyses conducted to explore the relationships between school disaster management and organizational resilience. This present the correlation coefficient, it's associated significance level, and interpretations of implications of the research findings within the context of this study objectives. Through this analysis, this section offer valuable insights into the interplay between these variables and their potential impact on the big body of knowledge about climate change education and school disaster management in promoting organizational resilience of Stand-alone Senior High Schools in the Division of Laguna.

It is to bring attention to this particular aspect highlighting the fundamental importance and centrality of climate change education in enhancing the the ability to adjust and respond effectively to changes of Senior High Schools in the face of environmental challenges with resilience, strength, and durability. The discussion highlights the connection between school disaster management and organizational resilience in Stand-alone Senior High Schools in Laguna, providing research tools and knowledge for adapting to the evolving environmental landscape.

**Table 20.** *Significant Relationship between School Disaster Management and Organizational Resilience of Stand-alone Senior High Schools in the Division of Laguna*

|                     |                     | Organizational Resilience |                 |                        |                         |                        |                        |                            |                          |
|---------------------|---------------------|---------------------------|-----------------|------------------------|-------------------------|------------------------|------------------------|----------------------------|--------------------------|
|                     |                     | Programs & Strategies     | Business System | Organizational Culture | Leadership & Management | Monitoring & reporting | Stakeholder Engagement | Resources & Infrastructure | Risk Management Planning |
| Disaster Prevention | Pearson Correlation | .612**                    | .651**          | .535**                 | .571**                  | .569**                 | .578**                 | .623**                     | .652**                   |

|                       |                     |                 |        |        |        |        |        |        |        |
|-----------------------|---------------------|-----------------|--------|--------|--------|--------|--------|--------|--------|
| Disaster Mitigation   | Sig. (2-tailed)     | .000            | .000   | .000   | .000   | .000   | .000   | .000   | .000   |
|                       | N                   | 143             | 143    | 143    | 143    | 143    | 143    | 143    | 143    |
|                       | Pearson Correlation | .586**          | .655** | .549** | .502** | .589** | .562** | .584** | .650** |
| Disaster Preparedness | Sig. (2-tailed)     | .000            | .000   | .000   | .000   | .000   | .000   | .000   | .000   |
|                       | N                   | 143             | 143    | 143    | 143    | 143    | 143    | 143    | 143    |
|                       | Pearson Correlation | .559**          | .559** | .457** | .531** | .534** | .495** | .502** | .499** |
| Disaster Response     | Sig. (2-tailed)     | .000            | .000   | .000   | .000   | .000   | .000   | .000   | .000   |
|                       | N                   | 143             | 143    | 143    | 143    | 143    | 143    | 143    | 143    |
|                       | Pearson Correlation | .582**          | .530** | .535** | .522** | .572** | .546** | .620** | .586** |
| Disaster Recovery     | Sig. (2-tailed)     | .000            | .000   | .000   | .000   | .000   | .000   | .000   | .000   |
|                       | N                   | 143             | 143    | 143    | 143    | 143    | 143    | 143    | 143    |
|                       | Pearson Correlation | .554**          | .536** | .511** | .533** | .524** | .580** | .535** | .565** |
|                       | Sig. (2-tailed)     | .000            | .000   | .000   | .000   | .000   | .000   | .000   | .000   |
|                       | N                   | 143             | 143    | 143    | 143    | 143    | 143    | 143    | 143    |
|                       |                     |                 |        |        |        |        |        |        |        |
| <b>Scale</b>          |                     | <b>Strength</b> |        |        |        |        |        |        |        |
| 0.80 – 1.00           |                     | Very Strong     |        |        |        |        |        |        |        |
| 0.60 – 0.79           |                     | Strong          |        |        |        |        |        |        |        |
| 0.40 – 0.59           |                     | Moderate        |        |        |        |        |        |        |        |
| 0.20 – 0.39           |                     | Weak            |        |        |        |        |        |        |        |
| 0.00 – 0.19           |                     | Very Weak       |        |        |        |        |        |        |        |

Table 20 demonstrates the significant relationship between school disaster management and organizational resilience of Stand-alone Senior High Schools in the Division of Laguna.

The disaster prevention, preparedness, mitigation, response, and recovery of school disaster management were observed to have significant relationship with the organizational resilience in terms of programs & strategies, business system, organizational culture, leadership & management, monitoring & reporting stakeholder engagement, resources & infrastructure, and risk management planning. This is based on the computed *r* values obtained from the responses as it reveals a Moderate to Very Strong Correlation or Relationship ranging from 0.40 to 0.79 *r* values. Furthermore, the *p*-values obtained were less than the significance alpha 0.05, hence there is a significance.

Consequently, the null hypothesis suggesting no significant relationship between the school disaster management and organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna is rejected, supporting the presence of a significant association between them. Here, the findings highlight the importance of integrating comprehensive disaster management strategies within the schools to enhance their resilience in facing various challenges and emergencies. This underscores the need for continued efforts in disaster preparedness and management within educational institutions to ensure their ability to withstand and recover from adverse events.

### ***Singly or in Combination are Climate Change Education and School Disaster Management as Significant Predictors of Organizational Resilience of Stand-alone Senior High Schools in the Schools Division of Laguna***

This section discusses the statement of the problem number six (6), singly or in combination, climate change education and school disaster management are significant predictors of organizational resilience of Stand-alone Senior High Schools in the Division of Laguna.

The table delve into the results of ANOVA analyses conducted to to singly analyze the climate change education and school disaster management as predictors of organizational resilience. This presents insights into the Beta coefficients, standard error, *t*-value and significance levels associated with the predictors examined in this study. Through this analysis, this section allow for a detailed and comprehensive discussion of the variables mentioned. In combination analysis, regression analyses were made using sum squares, degrees of freedom,

mean square, f-value and significance level to comprehensively approach an understanding of combined effects of the predictors to the organizational resilience of Stand-alone Senior High Schools.

Understanding the intricate relationship between climate change education and school disaster management is crucial in assessing their roles as predictors of organizational resilience. The next discussion aims to delve into the interconnectedness of these two variables, exploring how they contribute to enhancing the resilience of school organizations.

**Table 21.** Single Analysis of Climate Change Education and School Disaster Management as Predictors of Organizational Resilience of Stand-alone Senior High Schools in the Division of Laguna.

| Organizational Resilience | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
|---------------------------|-------------------------------------------------------|-------|------------|-------|--------|------|
| Programs & Strategies     | (Constant)                                            | .338  | .292       |       | 1.160  | .248 |
|                           | Curriculum Integration                                | .277  | .083       | .274  | 3.353  | .001 |
|                           | Co-Curricular Activities                              | .319  | .076       | .349  | 4.192  | .000 |
|                           | Stakeholder Involvement                               | .086  | .085       | .084  | 1.014  | .313 |
|                           | Environmental Awareness                               | -.052 | .111       | -.049 | -.471  | .638 |
|                           | Educational Resources                                 | .152  | .075       | .164  | 2.028  | .045 |
|                           | Disaster Prevention                                   | .033  | .092       | .030  | .365   | .716 |
|                           | Disaster Mitigation                                   | -.017 | .098       | -.016 | -.179  | .858 |
|                           | Disaster Preparedness                                 | .035  | .096       | .034  | .368   | .714 |
|                           | Disaster Response                                     | .176  | .097       | .168  | 1.806  | .073 |
|                           | Disaster Recovery                                     | -.069 | .096       | -.064 | -.718  | .474 |
| Organizational Resilience | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
| Business System           | (Constant)                                            | .028  | .325       |       | .087   | .931 |
|                           | Curriculum Integration                                | .307  | .092       | .290  | 3.336  | .001 |
|                           | Co-Curricular Activities                              | .053  | .085       | .056  | .628   | .531 |
|                           | Stakeholder Involvement                               | .082  | .095       | .076  | .862   | .390 |
|                           | Environmental Awareness                               | .009  | .123       | .008  | .069   | .945 |
|                           | Educational Resources                                 | .188  | .084       | .193  | 2.247  | .026 |
|                           | Disaster Prevention                                   | .194  | .102       | .168  | 1.897  | .060 |
|                           | Disaster Mitigation                                   | .258  | .109       | .230  | 2.372  | .019 |
|                           | Disaster Preparedness                                 | .024  | .107       | .022  | .225   | .822 |
|                           | Disaster Response                                     | -.098 | .109       | -.089 | -.898  | .371 |
|                           | Disaster Recovery                                     | -.026 | .108       | -.023 | -.245  | .806 |
| Organizational Resilience | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
| Organizational Culture    | (Constant)                                            | .548  | .315       |       | 1.737  | .085 |
|                           | Curriculum Integration                                | .328  | .089       | .324  | 3.672  | .000 |
|                           | Co-Curricular Activities                              | .110  | .082       | .120  | 1.335  | .184 |
|                           | Stakeholder Involvement                               | .092  | .092       | .089  | 1.001  | .319 |
|                           | Environmental Awareness                               | .145  | .119       | .135  | 1.211  | .228 |
|                           | Educational Resources                                 | .218  | .081       | .234  | 2.684  | .008 |
|                           | Disaster Prevention                                   | -.065 | .099       | -.059 | -.652  | .516 |
|                           | Disaster Mitigation                                   | .069  | .106       | .064  | .653   | .515 |
|                           | Disaster Preparedness                                 | -.155 | .104       | -.151 | -1.495 | .137 |
|                           | Disaster Response                                     | .198  | .105       | .189  | 1.883  | .062 |
|                           | Disaster Recovery                                     | -.056 | .104       | -.051 | -.538  | .592 |
| Organizational Resilience | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
| Leadership & Management   | (Constant)                                            | .432  | .332       |       | 1.301  | .196 |
|                           | Curriculum Integration                                | .276  | .094       | .275  | 2.939  | .004 |
|                           | Co-Curricular Activities                              | .080  | .086       | .088  | .923   | .357 |



|                            |                                                       |       |            |       |        |      |
|----------------------------|-------------------------------------------------------|-------|------------|-------|--------|------|
|                            | Stakeholder Involvement                               | .229  | .097       | .224  | 2.368  | .019 |
|                            | Environmental Awareness                               | .241  | .126       | .227  | 1.917  | .057 |
|                            | Educational Resources                                 | -.043 | .085       | -.047 | -.506  | .614 |
|                            | Disaster Prevention                                   | .129  | .104       | .118  | 1.233  | .220 |
|                            | Disaster Mitigation                                   | -.195 | .111       | -.183 | -1.754 | .082 |
|                            | Disaster Preparedness                                 | .145  | .109       | .142  | 1.326  | .187 |
|                            | Disaster Response                                     | -.005 | .111       | -.005 | -.044  | .965 |
|                            | Disaster Recovery                                     | .039  | .110       | .036  | .357   | .721 |
| Organizational Resilience  | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
| Monitoring & Reporting     | (Constant)                                            | .512  | .304       |       | 1.685  | .094 |
|                            | Curriculum Integration                                | .286  | .086       | .291  | 3.322  | .001 |
|                            | Co-Curricular Activities                              | .191  | .079       | .216  | 2.419  | .017 |
|                            | Stakeholder Involvement                               | .170  | .088       | .170  | 1.922  | .057 |
|                            | Environmental Awareness                               | .109  | .115       | .105  | .946   | .346 |
|                            | Educational Resources                                 | .056  | .078       | .062  | .720   | .473 |
|                            | Disaster Prevention                                   | -.040 | .095       | -.038 | -.421  | .674 |
|                            | Disaster Mitigation                                   | .069  | .102       | .066  | .678   | .499 |
|                            | Disaster Preparedness                                 | .010  | .100       | .010  | .098   | .922 |
|                            | Disaster Response                                     | .155  | .101       | .152  | 1.526  | .129 |
|                            | Disaster Recovery                                     | -.113 | .100       | -.106 | -1.121 | .264 |
| Organizational Resilience  | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
| Stakeholder Engagement     | (Constant)                                            | -.146 | .308       |       | -.475  | .636 |
|                            | Curriculum Integration                                | .174  | .087       | .164  | 1.990  | .049 |
|                            | Co-Curricular Activities                              | .051  | .080       | .053  | .631   | .529 |
|                            | Stakeholder Involvement                               | .548  | .090       | .507  | 6.113  | .000 |
|                            | Environmental Awareness                               | .057  | .117       | .050  | .484   | .629 |
|                            | Educational Resources                                 | -.004 | .079       | -.004 | -.050  | .960 |
|                            | Disaster Prevention                                   | .103  | .097       | .089  | 1.065  | .289 |
|                            | Disaster Mitigation                                   | -.014 | .103       | -.012 | -.131  | .896 |
|                            | Disaster Preparedness                                 | -.131 | .101       | -.122 | -1.292 | .199 |
|                            | Disaster Response                                     | .022  | .103       | .020  | .214   | .831 |
|                            | Disaster Recovery                                     | .220  | .102       | .192  | 2.158  | .033 |
| Organizational Resilience  | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
| Resources & Infrastructure | (Constant)                                            | -.182 | .299       |       | -.610  | .543 |
|                            | Curriculum Integration                                | .283  | .085       | .261  | 3.335  | .001 |
|                            | Co-Curricular Activities                              | .176  | .078       | .180  | 2.258  | .026 |
|                            | Stakeholder Involvement                               | .317  | .087       | .288  | 3.642  | .000 |
|                            | Environmental Awareness                               | .068  | .113       | .060  | .602   | .548 |
|                            | Educational Resources                                 | .057  | .077       | .057  | .742   | .459 |
|                            | Disaster Prevention                                   | .105  | .094       | .089  | 1.119  | .265 |
|                            | Disaster Mitigation                                   | -.016 | .100       | -.014 | -.163  | .871 |
|                            | Disaster Preparedness                                 | -.211 | .098       | -.192 | -2.149 | .033 |
|                            | Disaster Response                                     | .341  | .100       | .304  | 3.418  | .001 |
|                            | Disaster Recovery                                     | -.077 | .099       | -.066 | -.782  | .436 |
| Organizational Resilience  | Climate Change Education & School Disaster Management | B     | Std. Error | Beta  | t      | Sig. |
| Risk Management Panning    | (Constant)                                            | -.044 | .289       |       | -.153  | .879 |
|                            | Curriculum Integration                                | .277  | .082       | .266  | 3.379  | .001 |
|                            | Co-Curricular Activities                              | .076  | .075       | .081  | 1.009  | .315 |
|                            | Stakeholder Involvement                               | .088  | .084       | .083  | 1.042  | .299 |
|                            | Environmental Awareness                               | .276  | .110       | .251  | 2.517  | .013 |
|                            | Educational Resources                                 | .097  | .075       | .101  | 1.300  | .196 |

|                       |       |      |       |        |      |
|-----------------------|-------|------|-------|--------|------|
| Disaster Prevention   | .124  | .091 | .110  | 1.366  | .174 |
| Disaster Mitigation   | .211  | .097 | .190  | 2.172  | .032 |
| Disaster Preparedness | -.227 | .095 | -.215 | -2.386 | .018 |
| Disaster Response     | .139  | .097 | .129  | 1.442  | .152 |
| Disaster Recovery     | -.048 | .096 | -.043 | -.502  | .616 |

Legend: \*Significant at 0.05

Table 21 presents the results of the Multiple Linear Regression examining a single analysis of climate change education and school disaster management as predictors of organizational resilience. Almost every component of organizational resilience including *programs & strategies, business system, organizational culture, leadership & management, monitoring & reporting, stakeholder engagement, resources & infrastructure, and risk management planning* do not show significance to climate change education and school disaster management. The majority of the F-test of the overall model is not significant (F(10 regression, 132 residual) with, ( $p > 0.05$ ), indicating that the model is not a good fit for the data.

However, curriculum integration, co-curricular activities, and educational resources are important sub-variables of climate change education that can significantly influence organizational resilience in terms of programs & strategies with ( $p > 0.05$ ). This means that programs and strategies that effectively integrate these elements are more likely to prepare students and school personnel or the whole organization to adapt to and mitigate the impacts of climate change successfully. The same situations applied to curriculum integration and educational resources of climate change education and disaster mitigation of school disaster management are significant predictors of organizational resilience in terms of business systems. This enhance not just awareness but also foster proactive and strategic approach in addressing climate change risks, improving disaster preparedness, and building resiliency towards sustainable business systems.

With similar considerations, curriculum integration of climate change education always show positive results with ( $p > 0.05$ ) significance level indicating as a significant predictor of not just programs & strategies and business systems, but also for organizational culture, leadership & management, monitoring & reporting, stakeholder engagement, resources & infrastructure, and risk management planning as sub-variables of organizational resilience. Specifically, educational resources still show a positive result as predictor of organizational culture. Meanwhile, stakeholder involvement surprisingly was found significant as predictor of leadership & management.

Seemingly, it was analyzed that co-curricular activities was also found significant predictor of monitoring & reporting. Likewise, stakeholder involvement and disaster recovery were found significant predictors of stakeholder engagement. Surprisingly, sub-variables of school disaster management were still found significant predictors of resources & infrastructure specifically the disaster preparedness and disaster response together with the climate change education indicators including co-curricular activities and stakeholder involvement. Lastly, environmental awareness, disaster mitigation, and disaster preparedness were found significant predictors of risk management planning.

This so far suggests that integrating climate change education into the curriculum has broad-reading implications for organizational resilience. The findings from this single analysis can consider integrating climate change education education into curriculums and co-curricular activities to reinforce various aspects of organizational resilience. This could involve developing programs, strategies, and resources that incorporate climate change education, fostering stakeholder involvement, and enhancing disaster preparedness and mitigating service in schools.

From the given findings above, we can infer that at 0.05 level of significance, the null hypothesis "*Singly are climate change education and school disaster management are not significant predictors of organizational resilience*" is accepted, which instigate that there is no significant effect between them. Specifically, most of the discussed components of organizational resilience do not exhibit meaningfulness and significance in relation to climate change education and school disaster management. The findings underscore the need for further investigation or consideration of additional factors that may influence organizational

resilience beyond the variables examined in this study.

**Table 22.** *Combination Analysis of climate change education and school disaster management as Predictors of organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna*

| Organizational Resilience  |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|----------------------------|------------|----------------|-----|-------------|--------|-------------------|
| Programs & Strategies      | Regression | 25.662         | 10  | 2.566       | 27.234 | .000 <sup>b</sup> |
|                            | Residual   | 12.438         | 132 | .094        |        |                   |
|                            | Total      | 38.101         | 142 |             |        |                   |
| Business System            | Regression | 26.338         | 10  | 2.634       | 22.490 | .000 <sup>b</sup> |
|                            | Residual   | 15.459         | 132 | .117        |        |                   |
|                            | Total      | 41.797         | 142 |             |        |                   |
| organizational Culture     | Regression | 23.665         | 10  | 2.367       | 21.502 | .000 <sup>b</sup> |
|                            | Residual   | 14.528         | 132 | .110        |        |                   |
|                            | Total      | 38.193         | 142 |             |        |                   |
| Leadership & Management    | Regression | 21.528         | 10  | 2.153       | 17.665 | .000 <sup>b</sup> |
|                            | Residual   | 16.087         | 132 | .122        |        |                   |
|                            | Total      | 37.615         | 142 |             |        |                   |
| Monitoring & Reporting     | Regression | 22.485         | 10  | 2.248       | 22.017 | .000 <sup>b</sup> |
|                            | Residual   | 13.480         | 132 | .102        |        |                   |
|                            | Total      | 35.965         | 142 |             |        |                   |
| Stakeholder Engagement     | Regression | 28.041         | 10  | 2.804       | 26.701 | .000 <sup>b</sup> |
|                            | Residual   | 13.863         | 132 | .105        |        |                   |
|                            | Total      | 41.904         | 142 |             |        |                   |
| Resources & Infrastructure | Regression | 30.592         | 10  | 3.059       | 30.883 | .000 <sup>b</sup> |
|                            | Residual   | 13.076         | 132 | .099        |        |                   |
|                            | Total      | 43.668         | 142 |             |        |                   |
| Risk Management Planning   | Regression | 28.172         | 10  | 2.817       | 30.387 | .000 <sup>b</sup> |
|                            | Residual   | 12.238         | 132 | .093        |        |                   |
|                            | Total      | 40.410         | 142 |             |        |                   |

Legend: \*Significant at 0.05

Table 22 illustrates the results of the ANOVA treatment to see the combination analysis of climate change education and school disaster management as predictors of organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna. As shown above, *programs & strategies*, *business system*, *organizational culture*, *leadership & management*, *monitoring & reporting*, *stakeholder engagement*, *resources & infrastructure*, and *risk management planning* of schools' organizational resilience shows significance to climate change education and school disaster management. The F-test of the overall model is significant (F(10 regression, 132 residuals) with,  $p < 0.05$ ), indicating that the model is a good fit for the data.

As shown above, it can infer that at 0.05 level of significance, the null hypothesis "*In combination are climate change education and school disaster management are not significant predictors of organizational resilience*" is rejected, which incites that there is a significant effect between them.

This overly and in combination revealed that several aspects of organizational resilience, including programs & strategies, business system, organizational culture, leadership & management, monitoring & reporting, stakeholder engagement, resources & infrastructure, and risk management planning, showed significance concerning climate change education and school disaster management. Therefore, investing in educational programs and strategies related to climate change and disaster management can contribute significantly to the resilience of educational institutions, ultimately benefiting students, staff, and the community at large.

## 1. Conclusion and Recommendation

Based on the foregoing findings, the following conclusions were drawn:

The study reveals a significant relationship between climate change education and organizational resilience in Stand-alone Senior High Schools in the Schools Division of Laguna. The researcher then came up to the conclusion that the null hypothesis “There is no significant relationship between climate change education and organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna” is rejected. The research suggests that various components of climate change education contribute to the resilience of the schools’ organizational structure and practices. On the other hand, the study also reveals that there is a significant relationship between school disaster management and organizational resilience of Stand-alone Senior High Schools. It can be inferred that the null hypothesis stating “There is no significant relationship between school disaster management and organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna” is rejected. Furthermore, a single analysis overall revealed that climate change education & school disaster management are not significant predictors in promoting organizational resilience of Stand-alone Senior High Schools. The researcher then concluded that the null hypothesis “Singly are climate change education and school disaster management are not significant predictors of organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna” is accepted. The combination analysis revealed the overall opposite result showing that climate change education & school disaster management are significant predictors of organizational resilience of Stand-alone Senior High Schools. Therefore, the null hypothesis “In combination are climate change education & school disaster management are not significant predictors of organizational resilience of Stand-alone Senior High Schools in the Schools Division of Laguna.” is rejected.

Based on the drawn conclusions resulted to the following recommendations:

Stand-alone Senior High Schools may continue encourage their personnel, particularly teachers, to participate in community activities related to environmental and climate care such as clean-up events, tree planting, community gardens, environmental workshops, proper community waste disposal programs, and others. Consequently, teachers have the option to continue uplifting the conduct of researches on these subjects to keep enhancing teaching capabilities. Also, School organizations may further conduct co-curricular activities like Environmental Campaigns, workshops, Youth-Led advocacy groups like the YES-O, and others aligned with national and international policies including the National Environmental Awareness and Education Act of 2008, UNESCO, and Sustainable Development Goals (SDGs). Additionally, the engagement and participation of stakeholders including the Climate Change Commission (CCC), Department of Environmental and Natural Resources (DENR), Local Government Units (LGUs), National Youth Commission (NYC), and others can be maintained to foster better guidelines and support for climate change education implementation particularly in research and teaching-learning activities and programs.

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