



ISSN: 2467-4885

ASIAN INTELLECT
FOR ACADEMIC ORGANIZATION AND DEVELOPMENT INC.

NUMBER 40 SEPTEMBER 2025



RESEARCH AND EDUCATION JOURNAL



**RESEARCH AND EDUCATION JOURNAL
NUMBER 40 SEPTEMBER 2025**

The Asian Intellect Research and Education Journal
is a refereed journal and is published by the

Asian Intellect for Academic Organization and Development Inc.

with
SEC REGISTRATION NO. CN201539886
and office address at
BLOCK 63, LOT 20, FIESTA COMMUNITIES,
SAN RAFAEL, TARLAC CITY

EMAIL: asianintellectorg@gmail.com
WEBSITE: www.asianintellect.org

FREQUENCY: The Asian Intellect Research and Education Journal is
published quarterly.



ASIAN INTELLECT
FOR ACADEMIC ORGANIZATION AND DEVELOPMENT INC.

RESEARCH AND EDUCATION JOURNAL

NUMBER 40, SEPTEMBER 2025

ASIAN INTELLECT

RESEARCH AND EDUCATION JOURNAL
NUMBER 40 SEPTEMBER 2025

EDITORIAL BOARD

Engr. Murphy P. Mohammed, DPA
Editor-in-Chief

Dr. Rodney P. Davis
Editorial Consultant

Julie A. Calma, MDA
Issue Editor

Dr. Gino G. Sumalinog
Dr. Mariquit M. Obrero
Dr. Gan Kia Hui
Mr. Raveenthiran Vivekanantharasa
Mr. Raisun Mathew
Dr. Alma M. Corpuz
Dr. Kim Edward Santos
Dr. Carol Linda Kingston
Mr. Aminu Adamu Ahmed
Dr. Erwin Tolbe
Dr. James M. Dumaguit
Reviewers / Referees

Jeo Marzel Ferrer
Melvin Ren Addun
Editorial Staff

Michael Sahagun
Layout

Joan Marion Addun
Cover Design



ASIAN INTELLECT

WWW.ASIANINTELLECT.ORG

SEC REGISTRATION NO. CN201539886

Excellence through academic and development endeavors



RESEARCH AND EDUCATION JOURNAL
NUMBER 40 SEPTEMBER 2025

PUBLICATION GUIDELINES

- 1. All articles must be authorized for publication by the author/s.**
- 2. All the research papers published must have a high degree of scholarship.**
- 3. All the research papers published must be approved by the editorial board.**
- 4. All the research papers published must have undergone evaluation from our corps of referees thru double- blind referee process.**
- 5. The articles may either be written in English or Filipino.**
All articles written in either languages must be accompanied by an Abstract which is written in English.
- 6. All contributions must be original.**



ISSN: 2467-4885

ASIAN INTELLECT
FOR ACADEMIC ORGANIZATION AND DEVELOPMENT INC.

NUMBER 40 SEPTEMBER 2025



RESEARCH AND EDUCATION JOURNAL

TABLE OF CONTENTS

- 09** | **WALKING BESIDE THEM: PARENTS' LIVED EXPERIENCES OF CHILDREN WITH AUTISM AND SPECIAL NEEDS**
Dr. Adoreen P. Quitoras
Dr. Maria Amelie L. Jayectin
- 16** | **EFFECTIVENESS OF CONTEXTUALIZED LEARNING MODULES IN SCIENCE IV AT AMBAGUIO CENTRAL SCHOOL**
Juliet B. Ollani
- 24** | **A CASE STUDY ON SUSTAINABLE ECO-TOURISM AND FOREST MANAGEMENT POLICIES OF AN ECOLOGICALLY-BALANCED LOCALITY**
Manolito C. Macalolot
Maria Amelie L Jayectin
- 37** | **SUCSESSES OF PHILIPPINE'S CONDITIONAL CASH TRANSFER (4PS) TO PRESENT AND EXITED BENEFICIARIES**
Maria Amelie L. Jayectin
Manolito M. Macalolot
- 44** | **CYTOTOXICITY AND TERATOGENICITY OF THE FORMULATED TEA PRODUCT OF BIDENS PILOSA FLOWERS**
Myrtle Joy L. Galate



TABLE OF CONTENTS

- 57** | **COMPARZA'S REMINISCENT GLORY: A
REVIVAL-TRANSMISSION OF ONCE
SYMBOLIC AND IDYLIC PHILIPPINE
FOLK LIFE**
Pedro G. Jayectin
Maria Amelie L. Jayectin
- 65** | **MGA KWENTO SA PINAGMULAN NG
PANGALAN NG MGA BAYAN SA
IKATLONG DISTrito NG BOHOL
"FOLKTALES OF THE ORIGIN OF TOWNS'
NAME OF THE THIRD DISTRICT OF BOHOL"**
Stanley O. Rasonabe, CpE, LPT, PhD-Fil
- 79** | **SERVICES OFFERED AT THE NATIONAL
ORTHOPEDIC HOSPITAL SCHOOL FOR
CRIPPLED CHILDREN: AN ASSESSMENT**
Jojit A. Bautista



WALKING BESIDE THEM: PARENTS' LIVED EXPERIENCES OF CHILDREN WITH AUTISM AND SPECIAL NEEDS

Dr. Adoreen P. Quitaras and Dr. Maria Amelie L. Jayectin
Bohol Island State University
Bohol, Philippines

ABSTRACT

Raising children with autism and other special needs presents complex challenges that significantly affect parents' life. Autism spectrum disorder (ASD) is a developmental condition that influences communication, behavior, and social interaction, with symptoms often emerging in early childhood. While research has explored various aspects of parenting children with disabilities, limited attention has been given to the lived experiences of parents within the local setting. This qualitative research using interpretative phenomenological analysis (IPA) explored the experiences of parents raising children with autism and special needs. Data were gathered through in-depth interviews and analyzed thematically to identify recurring patterns and meanings. Moreover, the questions were anchored on the 3 Cs by Lichtman (2023), and intelligent verbatim was applied in the transcription process. Results showed that parents' early responses were categorized into denial and acceptance, with acknowledgment marking the beginning of coping and adjustment. Children's conditions varied from mild that allowed participation in regular activities and severe which involved major behavioral and communication limitations. Parents faced multifaceted challenges such as financial strain, social discrimination, time constraints, and behavioral management. Perceived causes included pregnancy-related factors, medical issues, and environmental influences. Coping strategies involved professional interventions, SPED and skills training programs, emotional resilience, and fostering understanding within the family. Educational access depended on resources and severity of condition. Furthermore, parents' main concerns centered on their children's future independence, with hopes ranging from full recovery to mastery of basic survival skills. The study concludes that such parents can be described as those walking beside the ones "being in their own world," serving not only as parents but also as caregivers, educators, and advocates.

Keywords: Autism spectrum disorder (ASD), parental coping and resilience, special needs education, family support, Interpretive Phenomenological Analysis (IPA)

INTRODUCTION

It is a fact that almost all children with special needs if not including those that of Autism spectrum disorder (ASD) need the special support from families and persons especially parents to sustain living and performing even the simplest doing and performing personal hygiene. For parents, raising a child with autism or other special needs can be likened to journeying into uncharted territory, where no fixed rulebook for parenting exists. The experience may bring both positive and negative realities. On the positive side, families may develop stronger bonds, deepen mutual support, and cultivate resilience in navigating the challenges. On the other hand, the role often entails major adjustments, time-intensive caregiving, emotional strain, and substantial financial demands to cover therapies, education, and healthcare (Woodgate et al., 2008). The quality of parenting plays a vital role in the intellectual, social, and emotional development of a child with autism, as the family remains the primary institution for meeting a person's fundamental needs, and for fostering the ability to function in society (Rabbani-Khorasgani& Esfahani, 2014).

A very fundamental aspect to understand the life and world of children with special needs and ASD is to comprehend lived experiences of the parents and how they were able to undergo and response to the challenges met by them in rearing these children.

Autism spectrum disorder (ASD) is a neurological and developmental condition that affects communication, social interaction, learning, and behavior. While it can be diagnosed at any age, it is most often identified in the first two years of life (National Institute of Mental Health, 2024). Children with autism are often included within the broader category of children with special needs and are described as those “being in their own world,” alongside others who have varying developmental or physical disabilities. The presence of a child with autism in a family, particularly when more than one child is affected, can profoundly impact family dynamics, daily routines, and future planning. Parents and siblings often face significant challenges as they adapt emotionally, socially, and financially to the demands of caregiving. Too often, these children are defined by what they lack rather than by their abilities and potential (Pandit, 2010).

Studies have shown that parents of children with autism face persistent challenges involving their children’s behavior, communication, socialization, and interpersonal relationships (Ross and Salah, 2016). Parenting in this context requires a combination of emotional, behavioral, and psychological effort (Gona et al., 2016). Access to education is a crucial concern, as international agreements affirm that persons with disabilities have the same right to education, work, and community participation as others (Forshay et al., 2006; Compton et al., 2010). However, learning often takes longer, and the acquisition of skills may be more difficult for children with developmental conditions (Erikson, 2011).

Despite the growing body of literature on autism and special needs education, there remains a gap in understanding the lived experiences of parents, particularly in local contexts, regarding their coping mechanisms, educational strategies, and long-term hopes for their children. Much of the existing research focuses on clinical interventions, prevalence rates, or educational inclusion, but less is known about the day-to-day realities parents face, the adjustments they make, and how they envision their children’s futures.

This study addresses that gap by exploring the perspectives of parents raising children with autism and other special needs. It aims to capture their initial reactions to the diagnosis, their strategies for coping and adjustment, their approaches to education and skills training, and their enduring worries and aspirations. Through a phenomenological approach, the research seeks to provide a deeper understanding of the emotional, social, and practical dimensions of parenting in this context, contributing insights that can inform support systems, policies, and community awareness.

STATEMENT OF OBJECTIVES

The main objective of this study was to explore and understand the lived experiences of parents raising children with autism and special needs. Specifically, it aimed to:

1. Identify and categorize parents’ initial responses, common attitudes and traits of their children, challenges encountered in handling them;
2. Explore their experiences, coping mechanisms and adjustments employed by parents;
3. Examine the educational strategies and skills training accessed or utilized by the parents; and,
4. Understand the parents’ worries and aspirations for their children.

METHODOLOGY

The study utilized a qualitative Interpretative Phenomenological Analysis (IPA), chosen for its dynamic orientation and emphasis on in-depth understanding of lived experiences. IPA employs a two-stage hermeneutic process: first, participants interpret their own lived experiences; second, the researchers interpret the participants’ interpretation of those experiences (Alase, 2017; Smith et al, 2009). Interview recordings were transcribed using the Intelligent Verbatim method (also known as clean read or clean verbatim), which involves light editing and minor paraphrasing to produce an easy-to-read transcript while preserving meaning and context.

Participants and Procedure

Participants in the study were drawn from selected parents who have special child or children with ASD in their homes after a thorough search in the Province of Bohol, Philippines. The study focused

more not on quantity but quality, thus, the 12 number of participants fit to what it wants to measure that is parents' lived experiences of children with autism and special needs. Though parenting is a universal and common phenomenon around the globe, there is a need to see a glimpse how parents in the previously mentioned context, their experiences and responses to the challenge and to find out commonalities and differences.

Ethical principles were strictly observed throughout the research. Informed consent, anonymity, and confidentiality were diligently upheld. All information obtained remained strictly between the researchers and the participants to safeguard personal data and ensure trustworthiness of the process. Interviews lasted between 30 minutes to 1 hour, continuing until data saturation was reached. Participants were encouraged to use the language or dialect they were most comfortable with, particularly Visayan or Boholano, to enable them to fully express their thoughts and emotions. All responses were recorded, transcribed, and organized according to the objectives of the study.

Data collection was conducted through face-to-face, semi-structured, in-depth interviews, which served as the primary research instrument. A self-developed interview guide was created and validated by experts in the field. A total of twelve (12) participants were selected through homogeneous sampling, comprising parents raising children with autism or other special needs. This sampling approach, as described by Robinson (2014), ensures life history homogeneity, as all participants share a common past and present experience of parenting children with similar conditions.

For data analysis, the study followed a pre-defined structure aligned with its aims and objectives. The 3Cs framework by Lichtman (2023), coding, categorizing, and conceptualizing, was applied to systematically analyze the interview data. This process revealed the participants' life experiences, coping mechanisms, challenges, and concerns in raising children with autism or special needs. The narratives were examined using qualitative analysis techniques, including thematic analysis, content analysis, and narrative analysis, to identify recurring themes, patterns, and structures within the participants' accounts.

Finally since the researchers have no first hand experiences and knowledge of having children with special needs and ASD their biases and reservations were muted out even surmises and conjectures saved those that were revealed to them by parents themselves through their narratives. Thus, personal biases from the researchers were set aside.

RESULTS AND DISCUSSION

This section presents the findings of the study on the lived experiences of parents with autistic and special children, interpreted through a phenomenological lens. The narratives of the participants reveal their initial reactions to the diagnosis, the challenges they face in daily caregiving, their approaches to education and skills training, and their enduring hopes and worries for their children's future. Each theme is discussed alongside direct accounts from the parents, highlighting both the emotional and practical dimensions of raising a child with special needs.

I. Parents' Early Responses, Children's Conditions, Challenges, and Possible Causes

A. Two Types of Parents

The study revealed two main responses among parents upon learning that their child was autistic: those who initially denied the condition before eventually accepting it, and those who embraced the diagnosis from the beginning.

Denial Group

Parents in the denial group often described their initial reaction as shock, resistance, and emotional struggle, sometimes lasting for years. One parent shared, "It was not easy to accept that we have an autistic child." Others described complete rejection of the idea at first.

Acceptance Group

One shared, "From the very start of the abnormality of my child, I always let him feel my love and care. And despite his handicap, I was thankful to God and accepted it because his case is manageable".

Few described the process of gradual adjustment: "I slowly adjusted and accepted that my child has an abnormality because right after he was born"

B. Common Attitudes and Traits of Autistic and Special Children

Parents described a variety of behavioral patterns and tendencies that they observed in their autistic or special children. These included limited communication, hyperactivity, repetitive behaviors, sensitivity to routine changes, and unique social interactions.

One parent said, “My son does not talk and cannot talk. If he likes something he has tantrums if it could not be given. If he can hold something he has to throw it away. And wherever there is something on the floor, he usually kicks it”.

One mother expressed the difficulty of raising a non-verbal autistic child. She shared that when her son cannot communicate his need; he sometimes becomes violent and harms himself, which is heart-breaking to witness. Another parent described how her son who is deaf and has epilepsy, tends to wander aimlessly far from their home, without direction or awareness: “My son is deaf and epilepsy and he just walks anywhere far and near our house without any direction and soundness of mind. And finally another one described an extremely challenging condition to raise an autistic child who cannot talk or express what they want, as they live in their own world and cannot share their problems.

C. Challenges Met by Parents in Raising Autistic and Special Children

Parents consistently described the journey of raising an autistic or special child as demanding, marked by emotional, financial, and social challenges. Many spoke of the daily stress and exhaustion from constant caregiving, especially when managing unpredictable behaviors.

Financial Challenges

One parent shared the financial challenge of supporting a child with both autism and epilepsy: “My autistic and epileptic child needs budget for maintenance because if she cannot take it her epilepsy would attack her.” Another expressed that their biggest problem is being burdened with debt, as they have to cover not only the maintenance for their special child but also provide for their seven children.

A mother recounted how, since her child’s diagnosis, they have not yet been able to build their own house. She struggles with deciding what to prioritize—constructing a home or supporting her child’s education and therapy—because fulfilling one need means sacrificing the other.

Discrimination and Bullying from Others

One mother recalled a painful experience when a neighbor made a hurtful remark about her child condition. Another shared that their 24-year-old son is easily influenced by bullies, often following their harmful suggestions without understanding the consequences.

Time and Presence

A parent emphasized the value of being present for their child, even when it is difficult: Now and then, you have to be present to him especially before sleep by telling him stories.” Another shared that most of their time is devoted to their child, making it difficult to attend social gatherings or even go to church. One parent described how constant attention is necessary because of their child’s hyperactive behavior. Another also noted that their autistic child dislikes being in crowds and often covers his ears, leading to fewer invitations to social events. A parent recounted how their son still experiences nightly epileptic seizures even in adulthood, requiring constant care.

Special Children’s Behavior and Communication

One parent expressed the difficulty of teaching and communicating with a child who cannot speak. Another shared the challenge of accepting behaviors that are hard to comprehend. One parent described the need to adjust and give in to the child’s unpredictable wants. Another pointed out the difficulty of not being able to communicate with the child, noting that the child cannot express problems or feelings.

D. Possible Causes of the Condition of Having Children with ASD

When reflecting on the origins of their child’s condition, parents offered varied perspectives, often combining medical explanations with personal observations and beliefs. One parent expressed uncertainty about the cause. Another participant suggested a hereditary link. One mother reflected on possible family history. A participant blamed herself due to an X-ray exposure. Another one explained that her pregnancy was complicated by asthma. One participant admitted neglecting her pregnancy diet. Another

pointed to an illness by his son after his birth. A mother suspected stress and TB medication. Finally, one recalled being bitten by a dog early in pregnancy and she was injected with anti rabies.

Professionally, scientifically and medically their observations and comments were all conjectures and surmises and not supported with doctors' findings. However, their relevance cannot be aside because they were all born out of experiences.

II. Coping Mechanisms, Adjustments, Children Education and Parents' Worries and Hope

Acceptance of the existence of an autistic or special child marks not only the end of denial but also the beginning of a lifelong journey, one shared with someone whose future direction will rely greatly on the care and guidance of others. These individuals often depend on the unwavering support of those around them, especially their parents and loved ones. As a result, the latter carry the weight of making necessary adjustments, finding effective educational approaches, developing coping mechanisms, and confronting both the hopes and the anxieties that come with envisioning their children's future.

A. Coping Mechanisms and Adjustments

Parents described a variety of ways they adjusted to the realities of raising an autistic or special child, often blending discipline, love, acceptance, and personal sacrifice. For some, prior knowledge about autism helped shape early interventions. Some parents expressed full acceptance from the start, often framed with gratitude. For others, acceptance came through an emotional process. Some However, some parents needed professional advice before acceptance was possible. While few described intense emotional reactions when the diagnosis was first revealed. Long-term adjustments were also necessary for families caring for older special children with special needs.

B. Education and Skills Trainings of Autistic and Special Children

Parents of autistic and special children in the study expressed various strategies and efforts they undertook to provide educational opportunities and skills development for their children. For many, the journey began with identifying their child's strengths and limitations and then tailoring interventions to suit those needs. Some parents relied on formal schooling through SPED programs, while others sought therapies and home-based support due to their child's unique behavioral and sensory challenges. One participant shared the importance of personalized learning support. Another participant described her commitment to formal education by enrolling her child to SPED.

For some, therapies were also a vital part of their child's educational growth. Another participant explained their combined approach of schooling and therapy.

Remarkably, some children thrived in mainstream settings. As one participant proudly shared: "My 16 years old autistic son is now a regular student in a public high school. We were surprised because he became a regional athlete which at first we could not believe." For some, developing basic life skills was as important as academic learning.

However, not all children could adapt to formal schooling. While some parents faced additional challenges related to their child's medical condition and safety.

Others have seen slow but meaningful progress. As one parent shared, "My son is now 16 years old and he has been in SPED in Central school for six years already. In their SPED class he is little bit better than the others and he usually obeys what his teacher requires of him. He can understand fairly."

"We are happy that he developed already some basic skills like taking a bath alone and put on his clothes, sometimes he does some gardening and dancing yet there are times that he is wild especially if he does not like something like going to school."

C. Parents' Worries and Aspirations for Their Autistic and Special Children

Parents expressed a deep mix of concern for their children's future and hope for their growth, often framed by the reality of their own aging and the lifelong dependency their children might have. The financial aspect of care was a pressing concern for some. Others longed for improvement in their child's condition, even while accepting medical assessments.

Uncertainty about the future was also a recurring theme. While some parents took comfort in their child's progress, even if the path had been difficult. For others, hope was buoyed by the mildness of their child's autism and the basic skills they had learned.

Some parents emphasized their ongoing commitment to helping their children manage their condition. And a few parents anchored their hopes on teaching essential survival skills, as expressed by one: “I wish my daughter would know the basic skills of survival of how they could live for example care of the self”.

Phenomenological Interpretations

Parents’ initial attitudes toward having autistic or special children emerged in two general patterns. The first was the Denial Group, in which parents initially struggled to face the reality of their child’s condition but were eventually compelled to accept it, particularly after medical specialists confirmed the diagnosis. The second was the Acceptance Group, in which parents readily acknowledged from the outset that their children had developmental or behavioral challenges.

The study revealed some common characteristics of autistic and special children as described by the parents. Those with mild conditions were generally manageable and could perform tasks similar to those of neurotypical individuals. In contrast, children with severe conditions were often described as deaf, mute, unresponsive, withdrawn into their own world, and at times violent. Parents emphasized that with proper intervention from professionals, both mild and severe cases could improve; however, without intervention, mild cases could progress into more severe conditions. Some parents also reported instances where interventions were not effective.

The problems and challenges encountered by parents in raising their autistic and special children centered on financial difficulties due to the high costs of education, therapies, and maintenance medications. Discrimination and bullying were also a recurring concern, as were the time demands and constant supervision needed, especially for children with severe conditions. Many parents struggled with their children’s behavioral and communication difficulties, which required patience, adaptation, and specialized strategies.

When discussing the perceived causes of autism or special conditions, parents’ responses varied. Some could not identify any specific cause, while others attributed it to factors such as certain medications taken or not taken during pregnancy and high stress levels during gestation, which they considered the most plausible explanations.

Acceptance of the existence of an autistic or special child marked not only the resolution of denial but also the beginning of developing coping mechanisms and strategies to care for them. Most of the children in the study were able to attend SPED classes and participate in skills training programs. Some parents sought specialized medical or therapeutic services for their children, depending on their financial capacity. Notably, one child transitioned to a regular school setting and even became a CVRAA athlete. However, children with more severe conditions were generally unable to pursue formal education.

Parents’ primary worry centered on the question of how their children would live once they were no longer around to care for them, given their own advancing age. Their hopes and aspirations ranged from wishing for their children’s full recovery, to at least developing basic survival skills such as self-care, to entrusting their children’s future entirely to God in cases where improvement seemed unlikely.

CONCLUSION

This study explored and understood the lived experiences of parents raising children with autism and other special needs, revealing a journey marked by emotional, social, and financial challenges, but also by resilience, adaptability, and enduring hope. Parents’ initial responses varied from denial to early acceptance, yet acceptance ultimately became the foundation for navigating the demands of caregiving. Their accounts confirmed that the traits and needs of their children range widely, from mild conditions that allow participation in mainstream activities to severe cases requiring constant supervision and specialized support.

The challenges faced by parents were multifaceted, encompassing financial strain due to the high cost of therapies, special education, and medications; social discrimination and bullying directed toward their children; and the intensive time and emotional commitment needed for daily care. While some parents could not pinpoint the cause of their child’s condition, others associated it with factors during pregnancy such as medication intake, lack of supplements, or stress.

In response to these realities, parents employed diverse coping mechanisms and adjustments, from seeking professional interventions and enrolling children in SPED programs, to developing patience and emotional endurance. For some, their children achieved remarkable milestones, including integration into regular schooling and participation in sports competitions.

Parents' worries were deeply tied to the uncertainty of their children's future, particularly as they themselves age and anticipate a time when they may no longer be able to provide care. Their aspirations ranged from hopes for their children's full recovery to the desire for them to acquire basic life skills that would allow a measure of independence.

Overall, the findings highlight the crucial role parents play not only as caregivers, but also as advocates, educators, and emotional anchors for their children. Indeed, they are the ones "walking beside them," addressing their children's needs and making every possible effort to help them reach their fullest potential—whatever that potential may be.

REFERENCES

- Alase, A. (2017). The Interpretative Phenomenological Analysis (IPA): a guide to a good qualitative research approach. *International Journal of Education and Literacy Studies*, 5(2), 9. <https://doi.org/10.7575/aiac.ijels.v.5n.2p.9>
- Amayo, Elmer & Juplo, Myrna. (2019). *Exploring the Brand of Recoletos Education: An Interpretative Phenomenological Analysis*. Experience Philippine Social Science Journal.
- Blore, D.C. (2012). *An Interpretative Phenomenological Analysis (IPA). Investigation of Positive Psychological Change (PPC), Including Post Traumatic Growth (PTG)*. (Doctoral Dissertation). University of Birmingham, Research Archive. Retrieved from etheses.bham.ac.uk/3328/Blore_12_PhD.pdf
- Compton, D.L., Fuchs D.L. & Bryant, J.D. (2010). Selecting at risk-readers in
- Erikson, A. (2011). Language in mental retardation: Associations with and dissociations from general cognition (pp.290-333). New York, NY Cambridge University Press.
- first grade for early interventions A two-year longitudinal of decision rules and procedures> *Journal of Educational Psychology*, 98, 394-409.
- Forshay, J.D., & Ludlow, B.L. (2006). Mental retardation and intellectual disabilities: Teaching students using innovative and researched-based strategies. Boston: Merrill/Printice Hall.
- Gona, J. K., Newton, C. R., Rimba, K. K., Mapenzi, R., Kihara, M., Vijver, F. V., & Abubakar, A. (2016). Challenges and coping strategies of parents of children with autism on the Kenyan coast. *Rural and remote health*, 16(2), 3517.
- Griffin, Teresa (2014). Children with Special Needs Information Booklets for Parents
- Lichtman, M. (2023). *Qualitative education research: A user's guide* (4th ed.). Routledge.
- National Institute of Mental Health (NIMH). (2024, December). *Autism spectrum Disorder*. <https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd>
- Pandit (2010). Children and Young People with Disabilities
- Rabbani-Khorasgani, A & Esfahani, H.R. (2014). A qualitative of family influence on women's delinquency (The Case of Female Prisoners in Isfahan' Central Jail). *Security & Social Order Strategic Studies*, 8(2), 19-37. Retrieved from <http://web.b.ebcohost.com/ehost/pdfviewer?vid>
- Ross, David B. and Salah, Elizabeth Vultaggio, "The mystery of autism: Parental perspectives" (2016). Faculty Articles. 243. https://nsuworks.nova.edu/fse_facarticles/243
- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research*. Los Angeles, CA: SAGE
- Woodgate, R. L., Ateah, C., & Secco, L. (2008). Living in a world of our own: the experience of parents who have a child with autism. *Qualitative Health Research*, 18(8), 1075–1083. <https://doi.org/10.1177/1049732308320112>

EFFECTIVENESS OF CONTEXTUALIZED LEARNING MODULES IN SCIENCE IV AT AMBAGUIO CENTRAL SCHOOL

Juliet B. Ollani

Ambaguio Central School
Nueva Vizcaya State University
Nueva Vizcaya, Philippines

ABSTRACT

This study determined the effectiveness of contextualized learning modules on the learning competency level in science among Grade IV pupils at Ambaguio Central School for the School Year 2023-2024. Thirty-one pupils took the pretest to find out their initial learning competency level and the posttest to determine their learning gains from the intervention. The pretest-posttest difference was tested for significance using independent t-test. The respondents obtained fairly satisfactory learning competencies in science in the pretest along about soil and water prescribed for the fourth quarter. After their exposure to the contextualized learning modules, the respondents increased their level of learning competency to very satisfactory during the posttest. The use of contextualized learning modules is effective as demonstrated higher gain score in the posttest. The study recommends that similar contextualized learning modules be developed and validated to include all topics/learning competencies for Grade IV science from the first quarter to the last quarter of the academic year.

Keywords: Contextualized learning modules, effectiveness, Science IV, pre-test

INTRODUCTION

Education in the 21st century requires teachers to adopt innovative approaches that meet the diverse needs of learners while ensuring meaningful and relevant learning experiences. In line with the Department of Education's call for curriculum contextualization, teachers are encouraged to design instructional materials that are responsive to the learners' cultural background, environment, and everyday experiences. Contextualization not only enhances understanding of abstract concepts but also promotes active engagement, critical thinking, and problem-solving skills among pupils.

Science, as a core learning area, plays a vital role in developing learners' curiosity, analytical skills, and appreciation of the natural world. However, many elementary pupils struggle in mastering science concepts due to limited resources, unfamiliar content, and traditional teaching strategies that fail to connect lessons to real-life situations. At Ambaguio Central School, these challenges have also been observed, particularly in Science IV, where learners' performance indicates the need for more innovative and learner-centered instructional support.

To address this concern, contextualized learning modules were developed and utilized in teaching Science IV. These modules are designed to align with the K to 12 curriculum while incorporating local examples, situations, and materials that are familiar to the learners. By grounding science concepts in their immediate context, the modules aim to make learning more accessible, relevant, and enjoyable.

This study seeks to determine the effectiveness of contextualized learning modules in improving the academic performance of Grade 4 pupils in Science at Ambaguio Central School. Specifically, it will evaluate whether the use of such modules leads to a significant improvement in learners' understanding of scientific concepts, engagement in classroom activities, and overall achievement compared to traditional methods of instruction.

Through this research, it is hoped that findings will provide valuable insights into the role of contextualization in science instruction and contribute to the growing body of knowledge on effective teaching strategies that foster learner-centered education.

Statement of the Problems

The study determined the effectiveness of contextualized learning modules on the learning competencies in Science Grade IV at Ambaguio Central School for the School Year 2023-2024.

Specifically, the study sought answers to the following research questions:

1. What is the learning competency level of the Grade IV pupils at Ambaguio Central School in Science along the following competencies: comparing and contrasting the characteristics of different types of soil and explaining the uses of water from different sources in the context of daily activities before using the contextualized learning modules?
2. What is the learning competency level of the respondents in Science along the competencies after being exposed to contextualized learning modules?
3. Is there a significant difference in the respondents' level of learning competencies before and after the use of contextualized learning modules?

Null Hypothesis

This study tested this hypothesis:

1. There is no significant difference in the respondents' level of learning competencies before and after the use of contextualized learning modules.

RESEARCH METHODOLOGY

Research Design

Since the study's objective is to determine the effectiveness of contextualized learning modules on the learning competencies in science Grade IV pupils, a quantitative research design particularly the quasi-experimental method was applied. The systemic investigation of phenomena through the collecting of numerical data and the application of statistical, mathematical, or computer tools is known as quantitative research. The positivist paradigm, which supports methods based on statistical breakdown and includes additional techniques like inferential statistics, hypothesis testing, mathematical position, randomization, blinding, structured protocols, experimental and quasi-experimental design, and questionnaire with a limited range of prearranged answers, is the foundation of quantitative research (Adedoyin, 2020).

In this investigation, a quasi-experimental methodology was applied. Quasi-experiments are studies that aim to evaluate interventions but do not use randomization. Similar to randomized trials, quasi-experiments aim to demonstrate causality between an intervention and an outcome. Quasi-experimental studies can use both preintervention and postintervention measurements as well as randomly selected control groups. (Article from Journal of the American Medical Informatics Association).

Research Environment

The study was conducted in Ambaguio Central School, a public elementary institution situated in the municipality of Ambaguio, Nueva Vizcaya, Ambaguio District. It offers complete elementary education from Kindergarten to Grade 6 level and also Special Needs Education (SNED) that accommodate differently abled children. The total population of this school is 415 with 14 Special Needs Education pupils enrolled.

In recent years, the school has undergone notable improvements like putting up a School Science park through the initiative of the Science coordinator. Classrooms have been also upgraded to support interactive learning through the provision of multimedia tools such as tablets, televisions, and laptops. Some teachers in this school also implemented the integration of localized content across subject areas, particularly in Science.

The school is a central school and it caters the needs of the pupils by exposing them to different contested activities in the district and in the division level. As a matter of fact, Ambaguio Central School joined and won various contested activities in the district level like poster making contest during the 2022 and 2023 Science Fair Cum and Best COMPASS Implementer. In the division level, the said school was also awarded an 2nd Runner-Up which has the highest generated resources during the Search for Best Brigada Eskwela Implementer.

Respondents

The respondents of the study are composed of 19 or 61.30 percent and 12 or 38.70 percent are female or a total of 31 or 100 percent.

Research Instrument

To gather data to answer the problems posted in Chapter 1, the following research instruments were utilized.

Summative Test. This is a teacher-made instrument that was administered to determine what competencies should be focused on. Twenty items are centered on the topic about soil and another 20 items focused on the topic about water. The summative test covering soil is administered in one class session. Before administering, the summative test has to be checked by the master teacher, subject coordinator, and the principal.

Pretest. This is a 20-item test prepared by the teacher, based on a table of specifications covering lower level thinking skills to higher order thinking skills. This instrument is administered to the pupils before the contextualized learning modules are used.

Posttest. This test is similar to the pretest which is administered to the same pupils after being taught with the use of the contextualized learning materials.

Data Gathering Procedure

To gather relevant data for this study, the researcher underwent the following procedures.

Needs Assessment. The researcher prepared a 20-item test based on the most essential learning competencies in Science IV for the third and fourth quarter. The constructed test was content and expert validated by the master teachers of the school and principal. After incorporating their suggestion, the summative test was administered to determine the learning competencies that must be focused on.

Development and Administration of Pretest. A 20-item multiple choice type test was constructed based on the table of specification earlier made. This was also subjected to expert validation pilot tested in Grade IV-B, who were not included in the study, after being validated and pilot tested, this instrument was administered to the respondents to determine their initial achievement in the learning competencies and topics under study.

Development of Contextualized Learning Modules. The researcher develops the contextualized learning module based on the least mastered competencies identified in the summative test and pretest. In the development of the contextualized module, the proponent considered local resources and the culture of the Kalanguyas inhabiting Ambaguio to make it more authentic. The module consisted of an introduction which contains instructions for the learner; the learning objectives to be achieve, and briefly introduced the content or topic of the module as pre-assessment to check what the learner knows about the topic; the lesson proper, activities and discussion; enrichment activity, generalization or summary of learning; and post-assessment.

Implementation of the contextualized modules. After the contextualized modules have been checked by the concerned school personnel, the respondents were taught utilizing the contextualized modules.

Administration of Posttest. Upon completion of the modules, the posttest, when is parallel to the pretest was administered.

Analysis and Interpretation of Results. The posttest was scored; results was compared to the pretest scored to find out whether or not, a significant difference between the tests exists.

This study was conducted observing ethical considerations. In the first place, the proponent sought for premium to conduct this study from the school principal; the consent of the parents for their children to participate, and the contextualized modules were also given to the Grade IV-B, although they are not included in the analysis, so that they do not feel any discrimination. The results of this study observed strict confidentially.

Statistical Treatment Data

Mean and standard deviation. These were utilized to determine the achievement level of the respondents in Science IV before and after the implementation of the intervention.

t-test. This was used to determine the significant difference between the achievement level of the respondents' achievement before and after using the contextualized learning modules.

The five percent (5%) level of significance was used in all statistical interpretations.

RESULTS AND DISCUSSIONS

Results and Discussions

1. Learning Competency Level of Grade IV pupils in Science Before the Use of Contextualized Learning Modules

Table 1. Learning Competency Level of Grade IV pupils in Science Before the Use of Contextualized Learning Modules (Pretest)

Level of Competency	Mean score	Standard Deviation	Interpretation
Comparing and contrasting the characteristics of soil	2.29	1.64	Did Not Meet Expectation
Explaining the use of water from different sources in the context of daily activities	2.32	1.35	Did Not Meet Expectation
Over-all Mean	4.61	2.40	Did Not Meet Expectation

Based on the results, the respondents' level of competency before the use of the module was notably low. The mean scores for both competencies comparing and contrasting the characteristics of soil is 2.29 with a standard deviation of 1.64 and explaining the use of water from different sources in the context of daily activities obtained a mean of 2.32 with a standard deviation of 1.35, both are described as Did Not Meet Expectation. The overall mean score is 4.61 with a standard deviation of 2.40 also fell under the same qualitative category.

2. Learning Competency Level of Grade IV pupils in Science After the Use of Contextualized Learning Modules

Table 2. Learning Competency Level of Grade IV pupils in Science After the Use of Contextualized Learning Modules (Post test)

Level of Competency	Mean score	Standard Deviation	Interpretation
Comparing and contrasting the characteristics of soil	7.10	1.11	Very Satisfactory
Explaining the use of water from different sources in the context of daily activities	6.42	1.57	Satisfactory
Over-all Mean	13.52	1.67	Very Satisfactory

After the implementation of the contextualized learning module the respondents' competency in Science along comparing and contrasting the characteristics of soil obtained a mean score of 7.10 with standard deviation of 1.11 described as Very Satisfactory. Their competency along explaining the use of water from different sources obtained a mean score of 6.42 with a standard deviation of 1.57, described as Satisfactory. The overall total score is 13.52 with a standard deviation of 1.67 reflected as a Very Satisfactory level of competency.

3. Comparison of Pretest and Posttest

Groupings	Mean	Computed t value	p-value	Remarks
Before the contextualized Learning modules	4.61	19.261	0.000	Significant
After the contextualized Learning modules	13.52			

There is a significant difference between the respondent's learning competency level in the two mentioned competencies before and after the use of the contextualized learning modules as evidenced by the computed t-value of 19.26 and p-value of 0.000.

DISCUSSION

Before the contextualized learning modules were utilized in tracking the Grade IV pupils in science, the mean score obtained by the pupils was 4.61, qualitatively described as a fairly satisfactory achievement. After their exposure to the contextualized learning modules, they obtained a mean of 13.52 with the qualitative description of very satisfactory. The mean difference of 8.91 was subjected to t-test for significance which yielded a computed t-value of 19.261 and a p-value of 0.000 which is lower than the significance level of 0.05. This means there exists a significant difference in the science achievement of the pupils before and after the use of contextualized learning modules. This means further that the respondents science achievement along the identified learning competencies have significantly increased.

This finding confirms the findings of Salamat (2024). This researcher embarked on a study on the development and validation of contextualized-based e-learning modules in Chemistry 10 of Sta. Elena High School, City Schools Division of Marikina City, SY 2022-2023. She uses descriptive research design in the study to evaluate the developed contextualized-based e-learning modules and to assess the level of performance of the students after the utilization of the mentioned materials. The sources of data were from 20 experts and 20 science teachers, as well as 30 Grade 10 students. The teachers evaluated the material as very satisfactory as the experts did and showed no significant difference. Nonetheless, the students' performance in the pretest and posttest results revealed substantial increase from 62.50% to 90.60% and indicated significant difference. It was concluded that the e-learning module was effective but recommended further improvement in some of its parts for clearer instructions.

Additionally, Litanas and Dela Cruz (2024) developed a contextualized strategic intervention material (SIM) in science for Grade 6 learners Tungao Central Elementary School, South Butuan District 2, Division of Butuan City for the school year 2021-2022. Employing a qualitative research design, the study involved 91 respondents and two evaluators. The research used our instrument the first quarter summative test, an evaluation instrument for quality assurance of the contextualized SIMs, and an evaluation instrument for content, accuracy, recency of information, and contextualization. Data analysis was conducted using frequency event, percentage distribution. The findings disclosed that the majority of learners did not meet expectations in their performance in the four summative tests. Specifically, many learners struggled with differentiating solutes from solvents, describing the appearance of a suspension, and explaining methods for separating mixtures through decantation and magnet use. Meanwhile, the contextualization criteria. Enhancement, to the SIMs was made according the evaluators' suggestions.

Meanwhile, Salacayan et al. (2024) averred that eliminate change has significant implication for health, yet people keep on doing things that greatly affect the environment causing this climate change. The province of Lanao del Sur is among the four-province categorized as very high risk for temperature change and this is due to cutting down of forests and rampant waste management problems. In this context, Salacayan et al. (2024) developed contextualized learning modules on climate change for Grade 7 students to help address both problems of scarcity of learning materials, and the support for climate change preparedness, and reduction. Their study utilized the Research and Development Model as its research design; respondents were composed of five teacher and 10 residents for the needs assessment and Grade 9 learners who showed that there was a significant difference between their pretest and post-test scores as yielded from a paired t-test for significance, meaning that the data obtained were normally distributed. Hence, the developed learning module improved students' academic achievement on the topic of climate change. Finally using a 19-item Likert scale, the developed learning module revealed positive feed-back, as a whole, the developed contextualized learning module was very satisfactory as teaching and learning materials for classroom instruction.

Furthermore, Capuyan (2021) determined the effectiveness of contextualized learning activity sheets (LAS) on the academic performance of Grade 8 science students in Quarter 2. Thus, study utilized the quasi-experimental type of research in gathering the responses employing the quantitative approaches. One hundred ninety-nine students who served as the subjects of the study used the interventions. Findings revealed that the students had fair performance before implementing the intervention, and very good performance after the implementation of LAS. The results showed a significant difference between the pretest and posttest performance of learners. This implied that the contextualized LAS are effectiveness for science instructions.

In a similar manner Marzan (2018), in response to the call to contextualize curriculum, developed and validated contextualized modules in physics for junior high school students through research and

development methodology. It involved three phases; planning phase, development phase, and validation phase. The planning phase involved intensive review of science curriculum and contextualization of instruction and identification of relevant materials and processes as tools for contextualized. The developmental stage involved writing the modules using the identified inputs and instructional design in the validation phase, the contextualized modules in physics were validated by the five experts in the field of physics education in terms of objectives, content, learning activities and evaluative activity. In the field testing the 86 Grade 9 students of the University of Northern Philippines Laboratory High School served as the respondents. The results uncovered that; 1) the contextualized modules in physics are “very much valid”. 2) the modular instruction group performed better in the posttest than the traditional lecture group and 3) the modular instruction group improved their performance better than the traditional lecture group, as shown in the normalized gain. It was concluded that the contextualized modules in physics are effective materials in upgrading students’ achievement in physics.

CONCLUSIONS

The following are the derived conclusions for the study:

1. The Grade IV pupils obtained “did not meet expectation” learning competencies in science along the topics about soil and water.
2. After their exposure to the contextualized learning modules, the respondent increased their level of learning competency to satisfactory and very satisfactory.
3. The use of contextualized learning modules is effective as demonstrated by having a significant difference result and a higher gain score in the posttest.

RECOMMENDATIONS

In the light of the significant findings and conclusions, it was recommended that:

1. Similar contextualized learning modules be developed and validated to include all topics/learning competencies for Grade IV science from the first quarter to the last quarter of the academic year.
2. Contextualized learning materials be developed in other subject areas.
3. School officials initiate a reward or incentive system for teachers who have developed effective contextualized materials for instruction in order to motivate them to write their own instructional materials and devices.
4. This study be replicated in another grade level.

REFERENCES

- Abouchacra, Z. (2016). Learning competencies, objectives and outcomes <https://www.d2l.com>
- Adedoyin, O.B. (2020). Quantitative research method. <https://www.researchgate.net>
- Alberta Education Website (2016). Alberta education’s policies, programs and initiatives related to K to 12 education, including curriculum. www.education.alberta.ca
- Alboruto, V. M. (2017). Beating the numbers through strategic intervention materials (SIMs): innovative science teaching for large classes. <https://ui.adsabs.harvard.edu>
- Alonzo and Mistades (2021). Students’ conceptual understanding and problem-solving of the work-energy and impulse-momentum theorem in a flipped classroom. *Journal of Physics: Conference Series*
- Ambayon, C. M. (2020). Modular-based approach and student’s achievement in literature. *International Journal of Education & Literacy Studies*. Vol.8, No.3
- Ayado and Berame (2022). Creation of supplementary learning materials *International Journal of Educational Policy Research and Review*. Vol.9 (4), pp. 112-117, September, 2022
- Ayeni, A. (2011). Teaching methods and student’s academic performance. <https://www.researchgate.net>
- Bacomo (2022). Modular learning efficiency: learner’s attitude and performance towards self-learning modules. *International Multidisciplinary Research Journal* 4 (2):60-72. <https://philarchive.org>

- Balagtas (2019). Looking through Philippine's K to 12 curriculum in mathematics and science vis-à-vis TIMSS 2015 assessment framework. *Eurasia Journal of Mathematics, Science and Technology Education* 15(12)
- Bello (2023). Contextualized and localized science teaching and learning materials and its characteristics to improve students' learning performance. <https://www.researchgate.net>
- Benito (2020). Effectiveness of self-learning modules in teaching mathematics 3. *International Journal of Recent Research in Thesis and Dissertation (IJRRTD)*. Vol.3, Issue 1, pp. 33-35. www.paperpublication.org
- Berberoglu, G. (2016). Evaluation of science education and basis for evaluation. *International Encyclopedia of Education* (Third Edition)
- Bouslog, M. (2015). Effective teaching strategies used in today's classrooms
- Camino (2023). Teacher's teaching strategies impact on students' academic achievements, especially those facing financial difficulties. *Journal of Law and Sustainable Development*
- Capuyan, A. (2021). Effectiveness of contextualized learning activity sheets (LAS) on the science students in Quarter 2. *International Journal of Advanced multidisciplinary studies*. Vol. 1 Issue 3
- Cheng, C.M. and Abu Bakar, M.B. (2017). Modular-based approach and student's achievement in literature. *International Journal of Education and Literacy Studies* 8(3):32 <https://www.researchgate.net>
- Christ, S. (2022). Total enumeration sampling. <https://www.scribbr.com>
- Coburn, W. (1991). Contextual constructivism; The impact of culture on the learning and teaching of science. <https://www.researchgate.net>.
- Cook, T. D and Campbell, D.T. (1979). Quasi-experimentation: design and analysis issues for field settings. <https://www.scholars.northwestern.edu>
- Cunanan, J. (2021). Education: A doorway to success. [Pressreader.com](https://www.pressreader.com). Digital Newspaper Subscription
- Duya, (2018). The impact of readily available instructional facilities on the effectiveness of teaching and learning process
- Gonzales, E. (2015). A modular approach utilizing decision tree in teaching integration techniques in calculus. *Asia Pacific Journal of Multidisciplinary Research*, Vol.3, No.3, August 2015
- Jimenez, EC. (2020). Motivating factors of teachers in developing supplementary learning materials <https://eric.ed.gov>
- K to 12 curriculum Guide in Science (2016). Development of scientific literacy and preparing students for informed decision-making in science and technology, August, 2016
- Kaptan, K. and Timurlenk, O. (2012). Challenges for science education. *Procedia-Social and Behavioral Sciences*. 51, 763-771, <https://doi.org/10.1016/j.sbspro.2012.08.237>
- Larawan, LA (2013). Acceptability of teacher-made modules in production management. *International Journal of Managerial Studies and Research (IJMSR)*, Vol.1,2 July2013, pp 10-22
- Lituanas, A, and Dela Cruz, F.(2024). Development and validation of contextualized strategic intervention materials in science for Grade 6 learners, *Randwick International of Education and Linguistics Science Journal*. Volume 5, no.4
- Llego, M. (2020). Effectiveness of modular learning approach in teaching elementary grade learners. *GSJ: Vol.9*, www.globalscientificjournal.com
- Magalong and Prudente (2020). Exploring student perceptions and conceptual understanding in a next generation blended learning (NXGBL) physics class. *Innovative Technology and Management Journal* 3:35-44. <https://www.researchgate.net>
- Malcolm, X. (2024). Education is the passport to the future, for tomorrow belongs to those who prepare for it today, University of York. <https://features.york.ac.uk>
- Marzan, J. (2018). Contextualized modules in physics for junior high school students, *University of Northern Philippines Journal*.
- Morales, (2017b). What is learning modules?
- Nardo, M.T.B. (2017). The implementation of modular distance learning in the Philippines secondary public schools. <https://www.dpublication.com>
- Nikolopoulou, K. (2022). What is purposive sampling, Definition samples. <https://www.scribbr.com>
- Perez (2020). Validation and utilization of a developed contextualized learning module for Science V.
- Raghu (2022). Development and effectiveness of contextualized learning module. <https://www.researchgate.net>
- Resurrection (2010). Contextualization

- Sadiq and Zamir (2014). Effectiveness of modular approach in teaching at university. *Journal of Education and Practice*. Vo.5, No.14
- Salacayan (2024). Utilization of developed contextualized learning module on climate change for Grade 9 learners. *Special Issue on Education, Public health*. <https://rsisinternational.org>
- Salamat. R. (2024). Effect of contextualized-based e-learning modules in Chemistry 10 on students conceptual understanding. *Psych Education*. 19(9)
- Saro, J (2023). Contextualized and Localized Science Teaching and Learning Materials and its characteristics to improve students learning performance, psychology and education: A multidisciplinary Journal. Volume 7, No.1
- Slideshare (2024). Science Education in the Philippines. [https://www. Slideshare. Net](https://www.Slideshare.Net).
- Sukhendu, D. (2018). conventional teaching in basic science; An inner view. <https://www.researchgate.net>
- Teacher PH (n.d.). Grade 4 science-most essential competencies-MELCs. <https://www. Teacherph, com>.
- Utami, N. W. (2016). Utilizataion of instructional materials
- Verano and Comighud's (2020). Effectiveness of contextualization in various educational setting
- Villanueva, J. and Dela Cruz, O. (2019). The Praxis of school-based management on curriculum and learning in the Philippines. *International Journal of Social Sciences & Educational Studies*. Vol.6, No. 2
- Western Governors University (2020). what is constructivism? <https://www, wgu.edu>
- Yazon, A. (2016). Validation and effectiveness of modules in assessment of students learning. *International Journal of Science and Research (IJSR)*.<https://papers.ssrn.com>

A CASE STUDY ON SUSTAINABLE ECO-TOURISM AND FOREST MANAGEMENT POLICIES OF AN ECOLOGICALLY-BALANCED LOCALITY

Manolito C. Macalolot and Maria Amelie L. Jayectin
Bohol Island State University
Bohol, Philippines

ABSTRACT

The rising issues of environmental damage, loss of biodiversity, and the overuse of natural resources caused by the rapid growth of tourism have prompted greater use of sustainable development practices in managing tourism and natural resources. The Municipality of Bilar, located in the province of Bohol, has been declared by the UN as an ecologically balanced locality and is known for its rich biodiversity, particularly the Rajah Sikatuna Protected Landscape (RSPL) and the Loboc Watershed Reforestation Project (LWRP). This study aimed to evaluate the existing eco-tourism and forest management policies of Bilar in terms of their identification, implementation, and evaluation as an ecologically-balanced locality. The study employed a case study research design. Data were collected through document content analysis of official municipal records and supplemented by informal interviews with key personnel from concerned local government offices. Analysis was guided by ecological conservation theories: biocentric, anthropocentric, and theocentric perspectives. Results show that the municipality has comprehensive policy structures, with strong intent toward sustainability, specifically Tourism Service Appreciation, Development, and Administration (TSADA) and the Comprehensive Land Use Plan (CLUP). The implementation process demonstrates efforts in environmental education, collaboration, and community involvement. Furthermore, according to its Municipal Ordinance No. 129, s. 2024, there is a recognized need to establish a municipal tourism development plan. However, findings from the study indicated that this has not yet been carried out. Thus, it was recommended that the Municipality of Bilar formulate an action plan to be incorporated into its comprehensive eco-tourism and forest management development plan. According to the National Forest Policy of India, the ideal percentage of total geographical area under forest should be at least 33% to maintain ecological stability. Bilar has a total forested area of 46%. Hence, it is qualified to be considered as a balanced locality.

Keywords: sustainable, eco-tourism, forest management, ecologically-balanced locality, ecological conservation theories

INTRODUCTION

The growing concern over environmental degradation, biodiversity loss, and the unsustainable use of natural resources has led to the increased adoption of sustainable development principles in tourism and natural resource management (Baloch et al., 2022). One of the most promising approaches is the integration of sustainable eco-tourism and forest management policies to maintain ecological balance while supporting local livelihoods (Limont, 2023). In the Philippines, municipalities with rich natural resources are recognizing the need to develop and implement policies that ensure environmental protection without compromising socio-economic growth (Anas, 2025; Falconi, 2023; Pulhin et al., 2024). Despite the increasing awareness of sustainable development and environmental conservation, many local government units (LGUs) in the Philippines still face challenges in effectively implementing eco-tourism and forest management policies. In some areas, policies are either outdated, poorly enforced, or lack community participation. Moreover, while eco-tourism is promoted as a tool for conservation and development, there is limited documentation and evaluation of its actual impact on both the environment and local communities (Alampay, 2005).

The Municipality of Bilar is a landlocked town situated in the central part of Bohol (as shown in Figure 1), known for its vast forest reserves, rich biodiversity, and tourist attractions such as Rajah Sikatuna Protected Landscape (RSPL) and Loboc Watershed Reforestation Project (LWRP) (Bog at Word-Press.com, 2015). Bilar is considered a key ecological area in Central Visayas due to its extensive forest cover and endemic species. Over the years, the municipality, just like other local government offices has promoted eco-tourism as a sustainable livelihood alternative while also enforcing forest protection measures (Cardino, 2012). However, with the increasing number of tourists, human activities and modernization, there is growing pressure on the locality's natural resources.

Bilar has established various ordinances and local policies to support sustainable tourism and forest protection. These include the zoning ordinances for protected areas and guidelines for eco-tourism activities (Municipal Ordinance No. 129, 2024). Additionally, the local government has engaged with national agencies such as the Department of Environment and Natural Resources (DENR) and the Department of Tourism (DOT) in implementing conservation and tourism projects. However, despite the presence of these policies, there is a limited evaluation and assessment for a fully developed ecologically balanced locality.

In comparison, other localities and countries have also pursued integrated eco-tourism and forest management strategies. For example, Costa Rica has successfully combined forest conservation with eco-tourism by establishing payment for ecosystem services (PES) and protected areas that engage communities in conservation (Pebet, 2024). Similarly, in Thailand, community-based tourism in forested areas empowers locals to become stewards of the environment while gaining income from tourism (United Nations Development Programme - Thailand, 2025). These examples highlight the importance of well-crafted policies, strong community involvement, and consistent evaluation in achieving sustainable and ecologically balanced outcomes.

The study of eco-tourism and forest policies in Bilar holds significance not only for environmental conservation but also for local economic development and governance (Kumar, et al., 2023). Environmentally, the municipality is a biodiversity hotspot, and its forests play a critical role in climate regulation, water supply, and habitat preservation. Socio-economically, eco-tourism has the potential to provide alternative income sources for residents, reduce dependency on extractive industries, and promote cultural heritage. Politically, understanding policy implementation offers insights into the strengths and gaps in local governance, inter-agency collaboration, and community participation. The assessment drawn from Bilar's eco-related policies can inform other LGUs with similar ecological profiles and tourism potentials, as well as improving its own implementation.

This study aimed to evaluate existing sustainable eco-tourism and forest management policies in the Municipality of Bilar, Bohol, with the goal of contributing to an ecologically balanced locality. By assessing current strategies and practices, the study seeks to provide analysis on its identification, implementation, and informed recommendations for strengthening local policies toward sustainable development and environmental stewardship.

STATEMENT OF OBJECTIVES

The main objective of the study was to evaluate existing sustainable eco-tourism and forest management policies of an ecologically balanced locality, particularly the Municipality of Bilar, Province of Bohol. Specifically, the study aimed at:

1. Identify the existing eco-tourism and forest management policies in the locality.
2. Examine the implementation strategies and practices of the existing eco-tourism and forest management in the locality.
3. Provide recommendation/s for improving the existing policies in the Municipality of Bilar in support for achieving an ecologically balanced locality.

METHODOLOGY

This study used a case study research design focusing on evaluating the existing eco-tourism and forest management policies and its implementation, aiming for an ecologically balanced locality. Data collection came from the documents and records of the Municipality of Bilar. Additional information was obtained through informal interviews with the key informants of the offices concerned within the Local Government Unit (LGU) of Bilar. Data analysis was done through content analysis of the existing ordinances and policies of the locality. The analysis was anchored on the three (3) related nature and ecological conservation theories namely: biocentric, anthropocentric, and theocentric theory. The main informants of the study were the personnel of LGU Bilar Local Tourism Office and LGU Disaster Risk Reduction Management (DRRM) Office by providing the researchers documents, ordinances and related documents about the study. The ones that evaluated the subject were the Schools of Advance Studies (SADS) of Bohol Island State University- Bilar Campus led by the SADS Dean.

RESULTS AND DISCUSSION

The results of the document content analysis on the existing eco-tourism and forest management policies of the Municipality of Bilar were presented into three main sections: identification, implementation, and evaluation. This structure was used to align with and effectively address the objectives of the study.

A. Identification of the Existing Policies

Tourism Service Appreciation, Development, and Administration (TSADA) pursuant to the Municipal Ordinance No. 129, series of 2024

Municipal Ordinance No. 129, s. 2024 is a policy of the Local Government Unit (LGU) of Bilar to promote both agri-tourism and eco-tourism as one of the basic sources of its income and as avenues for livelihood of its constituents. A sound agri- and eco-tourism coupled with ecological conservation, using environmentally friendly, culturally-feasible, socially- and spiritually acceptable technologies germane and appropriate to the intent and purpose. The LGU - Bilar shall encourage active participation of the local governance of the barangays to take part in directing the affairs of its tourism development by sharing their resources consistent with this end.

The objectives of the Municipal Ordinance No. 129, s. 2024 encompass the following:

- To identify and define the various tourism destinations of the municipality;
- To regulate the operations of the tourism industry;
- To implement various wholesome and socially-responsive tourism programs and projects as this will create economic opportunities by and among the LGU constituents; and
- To create and functionalize the Municipal Tourism Council by defining its composition, powers, and functions

In line with this ordinance, the various government-owned and privately-owned tourist sites and accommodations in the Municipality of Bilar were identified in Table 1.

Table 1. Identified government-owned and privately-owned tourist sites and accommodations in Bilar (Municipality of Bilar Ordinance No. 129, 2024)

Government-Owned Tourist Sites	Privately-Owned Tourist Sites	Accommodations
Logarita Swimming Pool Duangon Spring Pangas Falls Bilar Eco-Park RSPL Birding Sites (DENR) Anapungkay	Bohol Tarsier Sanctuary Bohol Enchanted Garden Kinaiyahan Forest Park Riverside Agriculture Cooperative-Lettuce Farm	Bohol Boutique Hotel Forest Garden Residence RDJ Mountain View Resort Bohol Biodiversity Complex Pamarayeg Room Inn Calamba Hostel, BISU Hostel PJD Dormitory, Mama Henz

Comprehensive Land Use Plan (CLUP) as mandated in the Executive Order No. 01, series of 1998

Natural Features

The terrain of the municipality is characterized by rolling hills extending between Villa Suerte and Riverside. The central portion of the town is an open area devoted to rice farming, and in between hills throughout the municipality where level lands are found are likewise devoted to rice farming. Bilar has two distinct seasons, namely: dry and wet. The rainy season generally starts in June and ends in late October or early November. Dry season usually starts in March till the late part of May. The town is considered the “Little Baguio of Bohol” because of its cool climate. Planted and natural grown trees contributed to maintaining the cool climate of the town, which has attracted local and foreign tourists.

Existing Land Use Pattern and Land Classification

The municipality has a total land area of 13,581.9737 hectares. With a total population of 16,029 for 1995, the gross density is 1.18 persons per hectare. Slopes of land ranges from 0-3 % to 50 % and above, the highest elevated portions range from 25 – 50 % and above. In the early 80’s, the timber land areas situated in the east portion of Bilar, Batuan, and Carmen, including the timber land areas of Valencia, Garcia-Hernandez and Sierra-Bullones were recommended as National Park for its unique physical values and beauties that are potential for development. Not until July 10, 1997, the area was officially proclaimed as Rajah Sikatuna National Park (RSNP) by virtue of Presidential Proclamation No. 129 issued by President Corazon C. Aquino. However, pursuant to R.A. 7586 (NIPAS Act of 1992), the RSNP is now known as Rajah Sikatuna Protected Landscape per Proclamation No. 287.

Agriculture (cropland, livestock and poultry)

The total land areas devoted to rice production of Bilar is estimated at 1,096.4686 hectares both irrigated and rainfed. The gross production of the total land areas devoted to rice is estimated at 6.4 metric tons per hectare and as per capita computation of gross consumption based on the 1995 census of 16,029 inhabitants of Bilar, a surplus of 3.5 metric tons per year will exist. This is a sign that Bilar is self-sufficient in terms of rice production.

Next to rice is corn as among the staple food for the Bilarnons. Statistics showed that the total land area planted to corn is approximately 1,788.4725 hectares with an average production of 1.50 metric tons per hectare. Residents in the remote barangays who are without riceland to cultivate are forced to plant corn and make it as their main staple food. Those rice farmers who also planted corn in their vacant lands dispose their products to the public making the public market filled with cereals.

Bilar is primarily an agricultural town, so, various crops thrive in different kinds of soil. Aside from rice and corn, assorted root crops, vegetables, fruit trees and industrial crops likewise abounds in Bilar. These root crops raised in Bilar like ube, camote, cassava, and gabi serve as alternate to rice and corn in cases of scarcity of supply of these staple foods. Other than root crops, there are also plenty of vegetables that grow abundantly in Bilar. An area of approximately 64.75 hectares has been devoted to the cultivation of various vegetables in Bilar, with an average production of 5.75 metric tons per hectare. Resident farmers do not only depend on staple food cultivation but likewise engaged in the production of legumes, fruit trees, industrial crops, livestock and poultry raising. To ensure substantial surplus of farm products is to allocate and expand potential areas to be devoted to agriculture and to utilize uncultivated idle lands. Moreover, local leaderships should continuously encourage resident-farmers through the devolved DA Office to produce more for the country’s economic recovery. Based on the landholdings of the people and as evidenced by their respective tax declaration, the total farm area of Bilar is 27% of the total land area of the municipality or 3,683.9911 hectares.

Comprehensive Agrarian Reform Program

The total land area for acquisition and distribution to the farmer-beneficiaries under CARP is 126.8899 hectares in aggregate from 16 barangays out of 19 with 138 farmer-beneficiaries under program types such as Voluntary Offer to Sell (VOS), Compulsory Acquisition (CA), P.D. 27 and Voluntary Land Transfer (VLT), while three (3) barangays are without any workable targets for land acquisition and distribution as follows: Villa Suerte, Rizal, and Riverside. On the Non-Land Transfer (Leasehold Operation), the total area presently covered is 803.6857 hectares with 769 tenant-lessees.

The trend in general is that the Municipality of Bilar is under leasehold area (R.A. 3844) not much on land acquisition and distribution. This means that the land resource is an equitably owned, therefore the land ownership is five (5) hectare ceiling which conforms with Section 6 of R.A. 6657. With the growing population of the tenant farmers and with the same area to cultivate, it will result to unemployment and movement of most Bilar people to other places.

Tourism

Just recently, Bilar town was declared as the center of the eco-tourism of Bohol. It is a fact that Bilar has a total forested area of approximately 6,221 hectares, which is 46% of the total land area of 13,581,9737 hectares. Most of these forested areas are highly protected. It also includes the man-made forest which attracted most of the incoming tourists. The famous Logarita Spring and swimming pool is at par with other known spring where tourists could relax and enjoy their pastime. Wild life and natural habitat are still existing at Rajah Sikatuna National Park. Unopened forests are seen at the RSNP, which has been declared by the National Government as highly protected area per proclamation No. 129. RSNP is considered the last remaining natural forest of Bohol with Bilar on its main entrance. This protected area is dominated by numerous dipterocarp species and several endangered and endemic wild life species where RSNP is their home. Making Bilar as an eco-tourism destination could spur economic activities in the area. The presence of various tourist attractions in Bilar could economically enhance the living condition of the local residents in the area.

Potential Industry

The Municipality of Bilar being situated between two protected areas of Bohol, the LWRP and the RSNP, is blessed with the abundance of water. For this reason, there are several natural springs of water found within the jurisdiction of the municipality. These natural springs are potential sources for the bottling of mineral water for public consumption in the highly urbanized areas not only in the Province of Bohol but nationwide. Although it is beyond the capability of the Local Government Unit of Bilar to develop or venture into this multi-million project, the administration is opening this potential industry into any investor that will put up the needed capital for the establishment of said industry. Once realized, it is expected that the same industry could provide employment to the Bilarnons and further spur the revenues of the town.

Irrigation System

Most of the areas devoted to agriculture particularly rice farming has good gravity irrigation system. As to sustainability, these irrigation systems likewise depend much on weather changes. Prolong drought or El Niño phenomenon could greatly alter the efficiency of these irrigated rice lands. Other rice farmers depend only on the rainfall or their rice fields are rainfed. But with the use of recent technologies, these rainfed rice field could still be irrigated.

B. Implementation of the Existing Policies

Tourism Service Appreciation, Development, and Administration (TSADA) pursuant to the Municipal Ordinance No. 129, series of 2024

Municipal Tourism Development Plan

The LGU - Bilar shall create a Municipal Tourism Development Plan drawn from various tourism stakeholders. The participants will include the Barangay Chairmen within the Recreation and Tourism Zone (barangays of Zamora, Campagao, Cansumbol, Quezon, Yanaya, Subayon, Villa Aurora, and Dagohoy), the Sangguniang Bayan (SB) of Bilar, a representative from the non-government organizations (NGOs), a representative from the academe, the Municipal Planning and Development Coordinator, the Municipal Budget Officer, and the Municipal Secretariat spearheaded by the Municipal Tourism Officer.

Municipal Tourism Committee

A Municipal Tourism Committee shall be created to provide the guidepost of the tourism development of the municipality and, in a just and equitable manner, assist the various tourism stakeholders in their endeavor. This Committee shall be under the control and supervision of the Local Chief Executive

(LCE). The following table includes the composition, term of office, and powers and function of the Committee.

Table 2. Composition, term of office, and powers and functions of the municipal tourism committee (Municipality of Bilar Ordinance No. 129, 2024).

Composition of the Municipal Tourism Committee
Municipal Mayor (<i>act as the Chairperson</i>) SB Chairperson on Tourism & Environment (<i>act as the Vice-Chair</i>) SB Chairperson on Agriculture (<i>Agri-Tourism</i>) Representative – YouthSector Municipal Planning and DevelopmentCoordinator Representative – BISUBilar Campus Representative – ReligiousSector Representative – NGOs Municipal Tourism ActionOfficer (<i>act as the Secretary</i>) Representative – TourismStakeholders
Term of Office
The Committee members shall serve for a term of three (3) years subject to re-appointment or re-designation. An honorarium may be provided for the Committee members, but it shall not exceed Two Hundred Pesos (P200.00) per meeting.
Powers and Functions
1. Initiate, maintain & monitor sanitation, cleanliness & beautification activities in the community 2. Liaise & coordinate with police agencies on matters of traffic & peace & order conditions affecting tourism & to monitor & assist in the early resolution of crimes reported by tourists 3. Organize or encourage the organization of a local dance & music cultural group, includes local <i>Rondalla</i> , with the support of the private sector & to schedule the performance in various towns & cities, in & out of the region 4. Initiate & promote exchange visit programs among civil/religious organizations with their counterparts in other provinces & regions 5. Maintain a regular bulletin on schedules of boats, planes, buses or even public utility van 6. Create & promote continuing awareness on the benefits of tourism through local media 7. Seek, liaise & coordinate with licensed tour operators for the promotion of the community as tourist destination 8. Initiate & promote a community side on Courtesy 9. Prepare & submit proposals for legislation aimed at stimulating investments and/or providing incentives, protecting & sustaining the local tourism industry 10. Act as advisory body of the municipal government in the formulation of policies & programs for the appreciation, development & administration of the tourism services of the municipality 11. Identify possible tourism sites for development 12. Monitor tourism owners/operators & tourism activities in the compliance of the local & national standards governing the eco-tourism/agri-tourism 13. Serve as the recommendatory body to the Local Chief Executive for the revocation and/or cancellation of permits, licenses & tourism compliance certificate for non-complying tourism owners/ operators.

Maintenance and Operation

Existing municipal tourism facilities and tourist spots shall be operated and maintained subject to the following regulations:

1. Logarita Inland Resort (Swimming Pool)

1.1 Rules and Regulations

- 1.1a. The tourists shall be treated with courtesy by the Logarita personnel. The personnel shall be required to wear uniforms and IDs to establish their identity.
- 1.1b. There shall be an established receiving center or office for the tourists, with adjacent mini-mall where local vendors may be put in-place.
- 1.1c. No vendors shall be allowed to sell their goods within the periphery of the pool. Violators shall be penalized with a fine of Three Hundred Pesos (P300.00).
- 1.1d. The municipal Kubo or Kamalig and other facilities shall be cleanly and attractively maintained with regularly scheduled repairs for its wears and tears. The repairs shall be the responsibility of the General Services Officer, in coordination with the Municipal Engineer and upon the recommendation of the Logarita Operation In-Charge.
- 1.1e. To maintain the cleanliness of the facilities, the cleaning shall be regularly supervised by the Logarita Personnel In-Charge, and the pool shall be cleaned every Friday.
- 1.1f. The swimming pool, the Kubo, and the vicinity shall absolutely be a No Smoking Zone. Smoking may be allowed only in a designated place, at the extreme end – seven meters away from the periphery of the pool. Violators of this provision shall be penalized with a fine of Five

- Hundred Pesos (P500.00) or may be restrained away from the inland resort by the Local Police Force or the Bilar Tourism Safety and Regulatory Force.
- 1.1g. Drinking of liquor or wines shall be prohibited within the pool and its periphery. Violators shall be penalized with a fine of Three Hundred Pesos (P300.00), or may be restrained away from the inland resort by the Local Police Force or the Bilar Tourism Safety and Regulatory Force.
 - 1.1h. The Logarita Inland Resort shall adopt a No Pay, No Entry policy. The entrance fee shall be duly issued with receipt by the Logarita personnel. The non-issuance of receipt shall be a ground for summary dismissal of the offending Logarita personnel.
 - 1.1i. The rates for the entrance fee, use of cottages/kubo or charges for tables and chairs shall be governed by the Local Tax Code.
 - 1.1j. Establishment of a Sing-A-Long or Videoke System is not compatible with this eco-tourism destination. Establishment of this kind of entertainment is strictly prohibited. The bringing in of this system may be allowed only during special occasion and upon the approval of the LCE with the payment of Five Hundred Pesos (P500.00) as prohibition exception fee. Violators shall be penalized with a fine of One Thousand Pesos (P1,000.00).
 - 1.1k. Trash and garbage shall be thrown only in the designated containers. Unnecessary throwing of garbage anywhere is strictly prohibited. A penalty of Three Hundred Pesos (P300.00) shall be imposed against a violator.
 - 1.1l. Hiring of the Personnel In-Charge or Manager in this establishment shall be with the concurrence of the Sangguniang Bayan (SB), and the person to be hired shall have a salary rate equal to that of a professional under Municipal Ordinance No. 58, series of 2015.

2. Bilar Eco-Park

2.1 Rules and Regulations

- 2.1a. The LGU shall adopt a No Pay, No Entry policy. The entrance fee shall be duly issued with receipt or cash ticket by the authorized LGU personnel. The non-issuance of receipt shall be a ground for summary dismissal of the offending personnel.
- 2.1b. The rates of fees are as follows: a) Entrance fee – Twenty Pesos (P20.00) per tourist, visitor or guest; children and adult (daytime); b) P250.00 per head (night time).
- 2.1c. The tourists shall be treated with courtesy by the LGU personnel. The personnel shall be required to wear uniforms and IDs to establish their identity.
- 2.1d. There shall be an established receiving center or office for the tourists, with adjacent mini-mall where local vendors may be put in-place,
- 2.1e. No vendors shall be allowed to sell their goods anywhere within the recreation zone, except only in the well-defined and designated places.
- 2.1f. To maintain the cleanliness of the facilities, the cleaning shall be regularly supervised by the LGU Personnel In-Charge.
- 2.1g. The facilities shall be cleanly and attractively maintained with regularly scheduled repairs for its wears and tears. The repairs shall be the responsibility of the General Services Officer, in coordination with the Municipal Engineer and upon the recommendation of the LGU Personnel In-Charge.
- 2.1h. The place shall absolutely be a No Smoking Zone. Violators of this provision shall be penalized with a fine of Five Hundred Pesos (P500.00), may be restrained away from the inland resort by the Local Police Force or the Bilar Tourism Safety and Regulatory Force.
- 2.1i. Establishment of a Sing-A-Long or Videoke System is not compatible with this eco-tourism destination. Establishment of this kind of entertainment is strictly prohibited. Violators shall be penalized with a fine of One Thousand Pesos (P1,000.00).
- 2.1j. Trash and garbage shall be thrown only in the designated containers. Unnecessary throwing of garbage anywhere is strictly prohibited. A penalty of Three Hundred Pesos (P300.00) shall be imposed against a violator.
- 2.1k. Hiring of the Personnel In-Charge or Manager in this establishment shall be with the concurrence of the Sangguniang Bayan (SB), and the person to be hired shall have a salary rate equal to that of a professional under Municipal Ordinance No. 58, series of 2015.

2.2 Services Offered

- 2.2a. Lump sum payment P250.00 per participant for Educational Forest Trekking with lecture discussion on flora and fauna with the following topics on: a) plant species and uses, b) micro-organism vis-à-vis ecological balance, c) distinction between man-made forest & natural forest & its biodiversity
- 2.2b. Biking – entrance fee of P20.00 per biker
- 2.2c. Horse Riding – service fee of P250.00 per person
- 2.2d. Caving – tour guide fee of P150.00 per person
- 2.2e. Camping – environmental fee of P150.00 per night
- 2.2f. Bird Watching – environmental fee of P100.00 per person

2.3 Facilities

- 2.3a. Restroom
- 2.3b. Info Center
- 2.3c. Boardwalk

2.4 Support Activities

- 2.4a. Food Service
- 2.4b. Souvenir – an ambulant vendor subject to cash tickets of P40.00 per day
- 2.4c. Environment Conservation and Sanitation Fee – P5.00 per tourist, visitor or guest
- 2.4d. Rent for Tables and Chairs – P40.00 per table / P5.00 per chair
- 2.4e. Fee for Cellphone / Laptop or Netbook Charging – P10.00 for the first hour and P5.00 for the succeeding hour
- 2.4f. Rent for Hammock or Duyan – P50.00 per piece
- 2.4g. Parking Fees:
 - 2.4.g1. Motorcycles – P10.00
 - 2.4.g2. Tricycles – P20.00
 - 2.4.g3. Four Wheel Vehicles – P30.00
 - 2.4.g4. Coasters / Mini Buses – P50.00
- 2.4h. Rent for Pictorials for Wedding and other related activities – P500.00
- 2.4i. Rent for Wedding Ceremony – P1,000.00
- 2.4j. Rent for Photo Shooting / Film Activities – P1,000.00

Note: *The Municipal Tourism Committee may fix fees, rental and charges to any services offered / tourism activities not specified.*

Control and Management

A Municipal Tourism Office shall be created to this end. The control and management of the park, recreation and open space areas and facilities shall be under the jurisdiction of this Office.

Permit

No construction or maintenance shall be made within the municipal tourism property under usufruct/ lease by any person without first obtaining an endorsement from the Sangguniang Bayan (SB) and a written permission from the Local Chief Executive / Municipal Mayor authorizing such construction or maintenance and a permit specifying in detail the work to be done and the conditions to be fulfilled to the terms of such approval.

Hours of Operation

The leased property for adventure tourism is open for public use between the hours of 8:30 o'clock in the morning until 5:00 o'clock in the afternoon. Said hours may be changed upon approval of the Sangguniang Bayan (SB). Beyond these hours, it shall be unlawful for any person to enter or remain in these municipal tourism facilities. Violation of this provision shall be penalized with a fine of Five Hundred Pesos (P500.00). Violator caught actually committing this prohibition may be incarcerated by the Local Police Force until payment of the required fine will be satisfied.

Support to Privately-Owned / Operated Tourist Spots

To ensure safety and comfort of all privately-owned / operated tourist spots within the jurisdiction of the municipality, the Local Police Force and the Barangay Peace Keeping Force shall be deployed regularly within the 24-hour period of the day to conduct monitoring and surveillance. Owners and operators of these tourist spot establishments shall be given 24-hour access communication to the aforementioned peace keeping force.

Regular Collection of Garbage and Other Support

Health and comfort of the tourists and tourist spot owners are the prime concerns of the LGU. Regular collection of duly segregated garbage shall be undertaken by the LGU. Water supply shall be maintained regularly to ensure supply of water of the tourism establishments. Repair of barangay roads leading to these establishments shall be promptly acted upon. Other supports required for the smooth operation of the tourist spots may be communicated to the LGU through the Municipal Tourism Office for it to study and act on.

Collection of Environment Conservation, Safety and Security Charges or “Users” Fee

The LGU, in the exercise of Police Power, that is the maintenance of safety and comfort of all privately-owned / operated tourist spots and their clients of the municipality, shall collect Environment Conservation, Safety and Security (ECSS) Charges or “Users” Fee. The rate of which shall be Thirty Pesos (P30.00) per individual tourist, guest or visitor. Non-compliance may revoke and/or cancel the permits, licenses, and the tourism compliance certificate after due process is being observed and/or complied. The Environment Conservation, Safety and Security (ECSS) Fund is a separate fund and hereby distinguished from the other public funds received by the local government.

Comprehensive Land Use Plan (CLUP) as mandated in the Executive Order No. 01, series of 1998

Environmental Management

The Municipality of Bilar is in between two protected areas of the interior municipalities of Bohol, namely: the LWRP and the RSNP, as shown in Figure 5 and 6. These two protected areas served as the watershed for springs and rivers of Bohol flowing towards the Loboc Hydro Electric Power Plant of the National Power Corporation. The management of these highly protected areas is handled by the Protected Area Management Board (PAMB), consisting of the Municipal Mayors and selected Punong Barangays of the areas affected. The RSNP covered the municipalities of Bilar, Batuan, Carmen, S-Bullones, G-Hernandez, Dimiao and Valencia. On the other hand, the LWRP covered the municipalities of Bilar, Batuan, Carmen, Loboc, Sevilla, Balilihan, Catigbian and Sagbayan.

The Municipality of Bilar is part of the three (3) protected areas that include the following: 1) Rajah Sikatuna Protected Landscape, 2) Loboc Watershed Reforestation Project, and 3) Chocolate Hills Natural Monument.

The Rajah Sikatuna Natural Park (RSNP) is a protected landscape area of forested limestone hills, grasslands and natural springs in the province of Bohol in the Central Visayas region of the Philippines. It is the largest remaining tract of natural forest in Bohol and one of the Philippines' top birdwatching sites. The park was initially gazetted a national park in 1987 covering approximately 9,023 hectares (22,300 acres). In 2000, it was re-established as a protected landscape under the National Integrated Protected Areas System covering its present area of 10,452.6 hectares (25,829 acres). The biggest portion (3,821.6 hectares or 37%) of RSPL is found in the Municipality of Bilar, being the gateway of the protected area.

The Loboc Watershed Reforestation Project (LWRP) is the second largest watershed in the province. However, it is the first to be declared as a protected area. The Municipality of Bilar is home to 2,400 hectares (23%) of the Loboc Watershed Reforestation Project. The Loboc Watershed has been declared as protected watershed forest reserve in December 23, 1953 under Proclamation 450. The watershed consists of 10,349 hectares of land.

Rules and regulations on how these two protected areas are to be managed emanate from the PAMB of either side in coordination with the policies and guidelines promulgated by the Department of Environment and Natural Resources (DENR). RSNP has a total land area of 10,452.60 hectares that occupies

portions of timberland in the municipalities of Bilar, Carmen, S-Bullones, G-Hernandez, Batuan, Valencia and Dimiao. For the municipality of Bilar, the RSNP has occupied a total of 3,821.60 hectares. On the other hand, the LWRP comprises the timberlands of the municipalities of Balilihan, Catigbian, Sagbayan, Carmen, Loboc, Sevilla, Bilar, and Batuan, Bohol with a total land area of 10,349 hectares. This LWRP has occupied a total of 2,400 hectares in the municipality of Bilar.

These two protected areas are governed by Pres. Proclamation No. 450 dated Dec. 23, 1953 for the LWRP and Presidential Proclamation No. 129 for the RSNP. With the growing demand from the public concern for environmental protection, on June 1, 1992 R.A. 7586 came into reality which provides for the establishment and management of the National Integrated Protected Areas System (NIPAS). Moreover, the RSNP was renamed into Rajah Sikatuna Protected Landscape per Presidential Proclamation No. 287.

The prevailing climatic type of these two protected areas falls under the fourth climatic type of the Philippines. This is characterized with no pronounce dry and wet season. However, greater precipitation is observed from the month of May to December. March is generally the driest month.

The soil types that prevail in both the RSNP and the LWRP are Batuan and Faraon Clay Complex characterized as calcareous and sand stone. The soil is dark brown to almost black plastic of sticky to slightly sticky when wet. It is friable only when slightly moist. Soil textures are classified into fine to moderately rough. Soil is rich with plant nutrients as shown by the existing vegetation of the entire area but then in some area especially with limestone bedding areas the soil is thin.

RSNP and LWRP are covered with natural forest dominated by different dipterocarp species like lawaan, bagtican, apitong, dalingdingan, yakal, almon, and mangachapoy. The Local Government Unit of Bilar in coordination with the DENR collectively joints efforts to protect these forest products. Local residents were encouraged to plant more trees. Seedlings of mahogany, g-melina, fruit-bearing trees and other species of trees were distributed to different barangays. In order to push the LGU's thrust in its efforts to maintain and protect its environment, the local administration in 1995 enacted Municipal Ordinance No. 27, s. 1995, prohibiting residents to cut down mahogany and g-melina trees planted along the road networks of Bilar which were planted through CIVAC during the Marcos regime. Residents are required to plant at least five (5) seedlings for every tree cut down inside their private land.

The usual problems and issues encountered by the PAMB of either side of these protected areas are as follows: illegal cutting of trees within the area, burning of kaingin, gathering of firewood within the protected areas, hunting within the protected areas, gathering raw materials, gathering of raw materials for cottage industry, and cultivation and farming activities within the prohibited areas.

Development Objectives and Strategies

1. Development Objectives

- 1.1. To conserve and preserve the largest, contiguous tract of dipterocarp forests in the Province of Bohol
- 1.2. To preserve and conserve the natural habitat of wildlife species for the present and future generations
- 1.3. To develop all potential areas for the establishments of recreational sights and eco-tourism projects
- 1.4. To improve socio-economic of the protected areas occupant and adjacent lowland communities by tapping their expertise and services in the management and development of the park
- 1.5. To create increase public awareness about the importance of the protected areas; to conserve protected areas and sustainable development of the local forest resources
- 1.6. To increase capacity of water yield by the watershed areas for the Loboc Hydroelectric Plant
- 1.7. To increase people's awareness as regards the value of the protected areas to the Province of Bohol and to the universe.

2. Development Strategies

- 2.1. To reforest denuded and without forest cover of barren forestland
- 2.2. To stop further encroachment and conversion of forestlands to other uses
- 2.3. To stop illegal cutting of trees and other illegal activities in the protected areas
- 2.4. To enjoin the community in forest protection program and to mobilize the NGOs or POs for the purpose

- 2.5. To promote public awareness on forestry & environmental concerns and issues
- 2.6. To activate members of the MENRO for the enforcement and implementation of local and national laws as well as to investor forestry activities and other relevant matters.
- 2.7. To establish a proper land classification map delineating protection and production areas in forestlands
- 2.8. To attend Barangay Assembly for public information and dissemination
- 2.9. To conduct routine forest patrol to abort illegal cutting of trees, gathering of firewood, forest products and hunting of wildlife

NGO – LGU Collaboration

There were several non-government organizations performing activities in the Municipality of Bilar. These NGOs contributed much to the economic development of the town. Among their activities are livestock dispersal, nursery development, demo farming, watershed rehabilitation, home gardening, community organizing, water and sanitation, agro-forestry development, livestock raising and etc.

Drainage and Sewerage

The Municipality of Bilar does not have a well-established drainage network except that on one side of the public market which serves as the passage of water from several carenderias of the public market towards a canal leading to the river. Normally, water from higher elevation flows down to the lower level and towards the Bilar River during heavy rainfalls.

Solid Waste Disposal

Bilar does not have a permanent landfill. What the municipal government has is a temporary dumping site at Sitio Candica, Roxas, Bilar, Bohol. This dumping site is a public land and within the forestal zone of Bilar. The DENR temporarily consider the request of Mayor Ester Corazon Galbreath to dump municipal garbage in the said site in the meantime that the LGU does not have its own sanitary landfill. The local administration in the absence of its sanitary landfill has allocated funds to purchase a lot to be used for the purpose. As of survey time in 1998, no area yet was identified by the Local Government Unit of Bilar as its sanitary landfill.

Opportunities and Potentials for Economic Advancements

The Municipality of Bilar is rich in natural resources because of its geographic location. It has abundant supply of water for both household and irrigation purposes. Potential sources of mineral water bottling industry are available from various natural springs. There are abundant supplies of raw materials for cottage and home industry. There are several plantations of trees which are available for furniture industry. There are several tourist spots that are seen in Bilar. The town is considered the “Little Baguio of Bohol” because of its cool and pleasant climate. Manpower resources are available because of the presence of the Bohol Island State University (BISU) Bilar Campus and the TESDA. The Bohol Island State University (BISU) is the first and only state university in the Province. The BISU Bilar Campus has Agriculture and Forestry as its flagship program.

C. Evaluation of the Existing Policies.

The evaluation of the existing eco-tourism and forest management policies in Bilar, Bohol revealed strengths and limitations based on their alignment with the principles of sustainable development, specifically through biocentric, anthropocentric, and theocentric lenses.

From a biocentric perspective, the policies reflected a growing awareness of the need to conserve biodiversity and protect natural resources. Programs such as reforestation, protection of forest reserves, and regulation of tourist activities in protected areas emphasize the intrinsic value of nature.

Moreover, in an anthropocentric standpoint, the policies demonstrated a strong focus on promoting eco-tourism as a livelihood opportunity for residents. The inclusion of community-based tourism initiatives and capacity-building activities reflects an attempt to balance environmental conservation with human development.

Through a theocentric lens, the policies echoed cultural and spiritual respect for nature, often tied to local traditions and practices. Environmental stewardship was promoted as a moral responsibility, which aligns with the values of many residents.

Overall, while the Municipality of Bilar has made notable progress in establishing eco-tourism and forest management policies, the evaluation indicated that there is a need of a comprehensive eco-tourism and forest management development plan in order to fully employ the existing policies for an ecologically balanced locality.

CONCLUSION AND RECOMMENDATION

This study successfully examined the eco-tourism and forest management policies of the Municipality of Bilar, Bohol, with a focus on their identification, implementation, and evaluation. Findings show that Bilar has laid a foundational policy framework grounded in ecological conservation and sustainable tourism. These policies reflect various ecological theories: biocentric, anthropocentric, and theocentric, that shape environmental governance. Furthermore, as stated in Municipality of Bilar Ordinance No. 129, Series of 2024, there is a need to create a municipal tourism development plan. However, the study revealed that this has not yet been accomplished. Therefore, it is recommended that the Municipality of Bilar formulate an action plan to be integrated into the municipality's comprehensive eco-tourism and forest management development plan.

REFERENCES

- Alampay, R. B. (2005). The Challenge of Sustainable Tourism Development in the Philippines. In *Sustainable Tourism Challenges for the Philippines* (pp. 1–22). Makati City, Philippines: Philippine APEC Study Center Network (PASCN) and the Philippine Institute for Development Studies (PIDS). Retrieved from
- Aranas, J. (2025, July 2). The Future of Forests Starts with Communities. ICSC | Institute for Climate and Sustainable Cities. <https://icsc.ngo/the-future-of-forests-starts-with-communities/>
- Baloch, Q. B., Shah, S. N., Iqbal, N., Sheeraz, M., Asadullah, M., Mahar, S., & Khan, A. U. (2022). Impact of tourism development upon environmental sustainability: a suggested framework for sustainable ecotourism. *Environmental Science and Pollution Research*, 30(3), 5917–5930. <https://doi.org/10.1007/s11356-022-22496-w>
- Bilar, Bohol profile – PhilAtlas. (1990, May 1). <https://www.philatlas.com/visayas/r07/bohol/bilar.html>
- Bohol Philippines Travel Guide. (2024). www.bohol-philippines.com>bilar.
- Bohol Philippines Travel Guide. (2024). www.bohol-philippines.com>rajah-sikatuna-national-park.
- Cardino, R. R. T. (2012). Voices from the Mountains: Local People's Perceptions on Policies Protecting the Karst Landscape of Bohol, the Philippines (Doctoral dissertation, Technische Universität Dortmund).
- Executive Order No. 01 (1998). Comprehensive Land Use Plan – Municipality of Bilar.
- Expanded National Integrated Protected Areas System Act of 2018 (2018). Municipality of Bilar
- Falconi, M. F. D. (2023). Assessment of environmental policies and ordinances towards sustainable tourism in Sagada, Mt. Province [Master's thesis, University of the Philippines Open University].
- Galolo, L. G. (2021, April 2). *Experience Logarita Spring* [Photograph]. Facebook. <https://www.facebook.com/galololouiegerson/posts/experience-logarita-springlogarita-spring-located-in-bilar-bohol-philippines-is-/1069082195219953/>
- Kumar, S., Hasija, N., Kumar, V., & Sageena, G. (2023). Ecotourism: A Holistic Assessment of Environmental and Socioeconomic Effects towards Sustainable Development. *Current World Environment*, 18(2), 589–607. <https://doi.org/10.12944/cwe.18.2.14>
- Limont, M (2023). Establishing a Balance between Sustainable Ecotourism and Forest Conservation in Land Protection. *J For Res*. 12: 485.
- Management Information System Unit, BISU-Bilar Campus (2022). Bohol Island State University – Bilar Campus [Photograph].
- Municipal Ordinance No. 129 (2024). Municipality of Bilar
- Pebet, M. (2024, January 29). Ecotourism as a tool for conservation and social progress in Costa Rica – Green Circle experience. Green Circle Experience. <https://greencircleexperience.com/2024/01/29/ecotourism-as-a-tool-for-conservation-and-social-progress-in-costa-rica/>

Provincial Government of Bohol. (2024). [www.bohol.gov.ph>about>municipalities](http://www.bohol.gov.ph/about/municipalities).

Pulhin, J. M., Ramirez, M. a. M., Garcia, J. E., Pangilinan, M. J. Q., Evaristo, M. B. S., Catudio, M. R. O., Magpantay, A. T., Tasico, S. L., Pulhin, F. B., Abes, J. L., & Mariano, B. J. S. (2024). Contextualizing sustainable forest management and social justice in community-based forest management (CBFM) program in the Philippines. *Trees Forests and People*, 16, 100589. <https://doi.org/10.1016/j.tfp.2024.100589>

Rajah Sikatuna Protected Landscape - Birding Heaven (2022). Rajah Sikatuna National Park [Photograph].

Supreme Court E-Library. (2019). www.elibrary.judiciary.gov.ph.

Yañez, G. (2025, May 16). *Must-Try tours & activities in Bohol Island*. Guide to the Philippines. <https://guidetothephilippines.ph/articles/what-to-experience/top-bohol-tours-activities>

United Nations Development Programme - Thailand. (2025, May 20). Thailand's Nature-Positive Tourism: A Community-Led Path in Phetchaburi and Prachuap Khiri Khan. UNDP - Thailand. <https://www.undp.org/thailand/stories/nature-positive-tourism-phetchaburi-prachuab>

Wondering Wanderer. (2024). [www.wonderingwanderer.com>chocolate-hills-bohol](http://www.wonderingwanderer.com/chocolate-hills-bohol).

SUCSESSES OF PHILIPPINE’S CONDITIONAL CASH TRANSFER (4PS) TO PRESENT AND EXITED BENEFICIARIES

Maria Amelie L. Jayectin and Manolito M. Macalolot
Bohol Island State University
Bohol, Philippines

ABSTRACT

Poverty continues to be a persistent challenge in the Philippines, affecting millions of households across the nation. In response, the government implemented the Pantawid Pamilyang Pilipino Program (4Ps), a conditional cash transfer (CCT) initiative aimed at breaking the cycle of intergenerational poverty by investing in health and education. This study explores the benefits of 4Ps as experienced by both present and exited beneficiaries and to investigate the program according to their status and financial stability at present. Employing a qualitative research design grounded in Appreciative Inquiry (AI), the study utilized the 4D Cycle (Discover, Dream, Design, and Deliver). Data were gathered through in-depth interviews and a focus group discussion with eleven participants who were purposively selected based on their involvement in the 4Ps. The interviews were conducted in languages familiar to the participants, transcribed verbatim, and analyzed thematically. The findings revealed that despite varying life circumstances, beneficiaries recognized the program as instrumental in uplifting their families through education, human capital development, and faithful fulfillment and discipline. It was also uncovered how beneficiaries recognized the program’s value on health and education, envisioned its continued relevance and sustainability, proposed enhancements in terms of subsidy use and employment priority, and expressed readiness on their obligations to sustain positive outcomes. The study highlights the value of understanding beneficiaries’ perspectives in ensuring the continued effectiveness and sustainability of social welfare programs.

Keywords: Pantawid Pamilyang Pilipino Program, appreciative inquiry, beneficiaries, conditional cash transfer, intergenerational poverty

INTRODUCTION

Poverty remains one of the most pressing challenges in the Philippines. Despite various governmental interventions, many families continue to struggle with food insecurity, limited educational attainment, and poor health outcome (Velarde & Fernandez, 2011). In response, the Philippine government adopted a Conditional Cash Transfer (CCT) model similar to Latin American programs such as Bolsa Família (Brazil) and Progresa (Mexico), aiming to invest in human capital while reducing poverty (Fernandez & Olfindo, 2011). Modeled after similar programs, Pantawid Pamilyang Pilipino Program (4Ps) provides financial assistance to low-income households, primarily to improve access to health, nutrition, and education (Orbeta&Paqueo, 2016). Majority of the Filipino families had that yoke of intergenerational of poverty that had been carried on and transferred from one generation to another ever since the country became a state in 1946.

Article 11, Section 9, 1987 Philippine Constitution states, “the State shall promote just and dynamic social order that will ensure the prosperity and independence of the nation and free people from poverty through policies that provide adequate social services, promote full employment, a rising standard of living and an improved quality of life for all.”

Consonant to the above, Executive Order no. 221 of 2003, an amendment to the executive order no. 15 series of 1998, entitled "Redirecting The Functions And Operations Of The Department of Social Welfare and Development" mandated the Department of Social Welfare and Development(DSWD) to assists the local government units (LGUs) in implementing poverty alleviation programs, projects and services. The program sought to provide assistance to local government units (LGUs), non-government

organizations (NGOs), other national government agencies (NGAs), people's organizations (POs) and members of civil society in effectively implementing programs, projects, and services that will alleviate poverty and empower disadvantaged individuals, families and communities for an improved quality of life as well as implement statutory and specialized programs which are directly lodged with the Department and/or not yet devolved to LGUs.

To break that intergenerational yoke and bondage of poverty, the Pantawid Pamilyang Pilipino Program-4Ps (R.A. 11310) was launched in and has since become one of the world's largest CCT schemes. The program targets impoverished households through the Listahanan system and conditions cash grants on children's school attendance, health visits, and parental participation in Family Development Sessions (Fernandez & Olfindo, 2011).

The program's implementation has led to a number of reported improvements. According to Orbeta and Paqueo (2015), children from 4Ps households had higher school attendance rates compared to those from non-4Ps households. Similarly, health-seeking behavior among beneficiary families also improved, particularly for prenatal care and child immunization (Philippine Institute for Development Studies, 2020).

The study entitled "COVID-19 and Social Assistance in the Philippines: Lessons for Future Resilience" by Cho & Johnson in 2022 stated that, despite social support, poverty rate in the Philippines was expected to rise significantly due to the pandemic. It was estimated by the Philippine Authority (PSA) that poverty rate in the country was about 23.7 percent in 2021 which equivalency totaled to 26.7 million from 4.74 households lived in poverty which was approximately 7 million more individuals compared that of 2019. However, a World Bank approximation surmised that if not government intervention poverty rate would have been higher up to 2 percent in 2020. Estimate suggests that a quarter of overall poverty reduction in the country from 2006 to 2018 could be attributed to government transfer driven by 4Ps (World Bank 2018).

Evaluations have documented that the 4Ps has improved school enrollment among children aged 12–17 and contributed to a 1.4 percentage point annual reduction in national poverty incidence, equating to about 1.5 million fewer poor Filipinos each year (World Bank Group, 2017). The program also increased prenatal visits, usage of child health services, and household spending on education and nutrition (Orbeta et al., 2021).

While the program has been lauded for its effectiveness, it is essential to understand how these improvements are perceived and experienced by the beneficiaries themselves, especially those who have exited the program. Many existing studies focus on quantitative impacts such as income, education, and health metrics (Asian Development Bank, 2020), but few have captured the lived experiences and long-term outcomes of both current and former 4Ps recipients. Exploring these narratives is crucial in assessing the program's sustainable impact.

This gap underscores the need for a qualitative, strength-based inquiry into the program's impact that goes beyond traditional metrics to capture how beneficiaries perceive success, envision future possibilities, and leverage program benefits over time. This study adopts the Appreciative Inquiry (AI) approach, particularly the 4D Cycle (Discover, Dream, Design, and Deliver) to explore positive outcomes and transformative experiences of 4Ps beneficiaries. Unlike deficit-based models, AI focuses on strengths, achievements, and potential, providing a richer understanding of what has worked well in social programs (Cooperrider & Whitney, 2005). Through this framework, the study aims to highlight the voices of beneficiaries, their aspirations, and the long-term benefits they associate with the program.

STATEMENT OF OBJECTIVES

The main objective of the study is to gain a deeper understanding of the Pantawid Pamilyang Pilipino Program (4Ps), particularly the benefits it has provided to both current and exited beneficiaries. It specifically explores the status of the program from the perspective of these beneficiaries. In conducting the study, the 4D Cycle framework, adapted from Cooperrider and Whitney (2005), was employed. This framework is composed of four phases:

1. Discover – This phase identifies what they discovered and what did they learn being in the program;
2. Dream – This phase explores the beneficiaries' aspirations and vision for the future in relation to their family's dreams and children's future;

3. Design – This phase focuses on how beneficiaries envision realizing their aspirations and desired future, i.e., about initiatives, trends and most hope that such a program can and grow stronger; and,
4. Deliver – This phase examines the strategies needed to make those plans feasible and sustainable, i.e., what can be done to sustain and continue 4Ps programs and dreams to break the bondage of intergenerational cycle of poverty among most Filipinos and to make it victorious.

METHODOLOGY

This study is an appreciative inquiry (AI) under qualitative research (QLR), which is defined as the cooperative search for the best in people, their organizations, and the world around them (Cooperrider & Whitney, 2005). It emphasizes the positive rather than the negative, cultivates appreciation, builds hope, unleashes collective imagination, and drives positive transformation. Among the various models of appreciative inquiry, the study adopts the 4D Cycle developed by Cooperrider and Whitney (2005), which consists of the phases: Discovery, Dream, Design, and Delivery.

The Discovery phase involves identifying what works well and what gives life to the organization or experience when it is at its best. The Dream phase envisions what the future might look like if those best practices were amplified. The Design phase focuses on planning and prioritizing processes that would help realize that envisioned future. Finally, the Delivery (or Destiny) phase involves implementing the proposed design and sustaining the transformation over time.

There were eleven participants and key informants in total: six participated in face-to-face semi-structured in-depth interviews, and five took part in a focus group discussion (FGD). These participants were among those who met the purposive criteria of having relevant and meaningful experiences with the 4Ps program. In qualitative research, particularly within Interpretative Phenomenological Analysis (IPA), emphasis is placed on the quality of data rather than the quantity. Thus, the chosen sample size adheres to the IPA-recommended range (Smith & Osborn, 2008), where "sacrificing breadth for depth" allows for thorough engagement with individual cases and facilitates a detailed analysis of similarities, differences, and convergence (Amayo & Juplo, 2019). All the participants and informants were assured of confidentiality of data and persons that the study may generate.

Of the total eleven participants and key informants six were personally visited by researchers to undergo semi-structured (the first to be conducted) in-depth interviews employing powerful and generative questions that are thought provoking, can elicit deeper meaning, bring assumptions to light and possibly moved forward. Most of the generative questions focused on personal and peak experiences by 4Ps present and exited beneficiaries. Then data generation and collection was stopped through theoretical saturation, i.e., on the basis of the data that has been collected or analyzed hitherto, further data collection and or, analysis is unnecessary.

The remaining five participants did not undergo the semi-structured in-depth interviews but were requested for a focus group discussion (FGD) for more than an hour setting. They were asked with positive questions about their experiences being 4Ps beneficiaries: 1) On what they discovered and what did they learn being in the program; 2) about their dreams of family's and children's future; 3) about initiatives, trends and most hope that such a program can and grow stronger, and; 4) what can be done to sustain and continue 4Ps programs and dreams to break the bondage of intergenerational cycle of poverty among most Filipinos and to make it victorious. Again, data generation and collection was stopped through theoretical saturation, i.e., based on the data that has been collected or analyzed hitherto, further data collection and or, analysis is unnecessary. All four questions in the FGD formed part also of the questions in the in-depth interviews.

Throughout the interviews and FGD, participants and key informants were encouraged to speak in the language they were most comfortable with (mainly Visayan or Boholano) to enable a more authentic and expressive sharing of insights.

To ensure the accuracy and credibility of the data, member checking was conducted, allowing participants to review and validate the transcriptions (Creswell, 2012). Ethical standards such as informed consent, confidentiality, and anonymity were strictly observed. Participants were informed about the study's purpose, and consent was obtained prior to participation. All information shared remained confidential between the researchers and participants to uphold ethical integrity.

All sessions were recorded (with consent), transcribed verbatim, and organized according to the study objectives and the 4D Cycle framework. A debriefing followed each interview, during which participants were reminded of the purpose of the study and reassured of the confidentiality of their responses. The transcribed data were securely stored in a password-protected device, ensuring that only the researchers had access to the information.

Since all the interviews and FGD were done in Visayan language, QRL software to analyze AI research data could not be utilized. Instead, coding for concepts, categories and themes were done. And finally, the coding for 4D phases was done and as coding progresses the researchers tried to look for emerging concepts, categories and themes. Themes generated after coding from the discovery and dream phases were used to formulate provocative propositions about the imagined and the ideal future. Hence, propositions become possibility statements which are calls for explicit action especially from the government and 4Ps beneficiaries.

RESULTS AND DISCUSSION

A. Benefits Experienced by 4Ps Beneficiaries

Three theories served as anchorage of the data gathered: Scaffolding Theory (Bruner, 2015), Human Capital Theory (Becker, 1962), and Social Contract Theory (Rousseau, 1762). Scaffolding theory identifies the importance of providing students with enough support in the initial stages of learning a new subject. Social contract theory is an arrangement between the people and the government in order to achieve common for the benefit of all. Human capital theory states that individual workers have a set of skills or abilities which they can improve or accumulate through training and education.

Education (Scaffolding Theory by Bruner, 2015)

In line with Scaffolding Theory, the 4Ps program functioned as an external support system enabling children to sustain their education by providing financial aid for school needs, nutrition, and reinforcing discipline. Beneficiaries consistently reported that the educational support significantly lessened their financial burden and helped their children remain in school.

A participant stated, “The support from 4Ps helped sustain the education of my children because we no longer had to worry much about school expenses.” Another echoed this by sharing, “My children are afraid to miss classes because they might not receive the benefits. That motivates them to attend school every day.”

Moreover, nutrition-related assistance ensures that children had proper meals before attending class and also contributed to improved learning focus and academic readiness. This reflects the findings of Flores et al. (2019), who documented increased school attendance and motivation among 4Ps beneficiaries in Nueva Ecija, and Villaflores et al. (2022), who found improved nutrition and health outcomes linked to the program. By scaffolding educational access, 4Ps supported learners through critical stages of development, ensuring fewer dropouts and encouraging continuity in education.

Human Capital Development (Human Capital Theory by Becker, 1962)

Human Capital Theory emphasizes that investment in education increases long-term income potential and employability. Participants affirmed that the 4Ps significantly contributed to the development of their children’s future capabilities.

One respondent shared, “Two of my children have now graduated and are working. Even though the salaries are small, they can now help support the younger ones still in school.” This cycle of support, where educated children begin to contribute financially to the family, demonstrates how educational investments under 4Ps can lead to intergenerational improvement.

Another beneficiary mentioned the Sustainable Livelihood Program (which 4Ps members have priority), stating, “I used the 20,000 pesos grant to start a small food business. It really helps with our daily expenses.” These stories show how 4Ps investments do not just address present needs but equip families with resources for future economic mobility.

Discipline and Mutual Accountability (Social Contract Theory by Rousseau, 1762)

The 4Ps program operates as a conditional transfer rooted in mutual responsibility between the state and beneficiaries. This arrangement reflects Social Contract Theory, where both sides have roles to fulfill for the agreement to be sustained. Several beneficiaries spoke of changes in behavior prompted by the conditions of the program.

A participant recalled, “Before, my husband always drank. But now he controls himself because if we violate the rules, we might get removed from the program.” This shows how fear of losing benefits has encouraged responsible behavior.

Another shared, “Every time we receive the money, I already have a plan. I divide it for food, school needs, and allowance. It really taught us discipline.” The Family Development Sessions (FDS), a required component of the program, also played a vital role. One parent explained, “Through FDS, we learned how to budget, take care of our children properly, and prioritize their needs over wants.”

These narratives affirm national evaluations, which have shown high compliance among 4Ps beneficiaries and responsible usage of funds.

B. Program Status Through the 4D Cycle

Discover

Participants shared their realization of the program’s value, especially after attending Family Development Sessions. These sessions helped them understand financial planning, parenting, and the government's role in alleviating poverty.

One beneficiary remarked, “Before 4Ps, we thought the government had no concern for us. But through the program, we saw that they really did not abandon families like us.” Another said, “We learned so much from the Family Development Sessions, like how to handle money and how to raise children with discipline.”

This stage marked the start of personal and family transformation as they recognized that structured government support could truly impact their lives.

Dream

Beneficiaries expressed hopes and dreams for a future where the 4Ps program continues to evolve. They envisioned greater access and longer support for more families.

One shared, “I hope the program continues because there are still many families who are not yet included but also need help.” Another said, “My dream is for my children to graduate, find decent jobs, and be able to live better than us.”

These dreams reflect the inspirational core of Appreciative Inquiry, where participants build on current strengths to imagine better futures.

Design

When asked how the program should be improved or sustained, respondents offered ideas that reflect thoughtful engagement and a deep understanding of what works.

One emphasized the need for continuous responsible behavior, saying, “As long as we use the support properly, prioritizing our children’s needs, the program will remain helpful.” Another proposed broader educational support: “Government should not only focus on helping education majors. They should also support other professions so more youth can benefit.”

Others suggested enhancing FDS content to include livelihood skills, parenting talks, and more discussions on financial management. These insights show how participants don’t just receive benefits, they actively think about how to make the program better for themselves and others.

Deliver

Finally, beneficiaries clearly understood that program sustainability requires mutual effort. One respondent captured this well, saying, “The program cannot succeed without cooperation. The government must provide, and beneficiaries must fulfill their responsibilities. That is how 4Ps can continue.”

Others emphasized the importance of being role models to other families and ensuring that children understand the value of the assistance they receive. “We always remind our children that this help is not forever. They must study hard and be grateful,” one parent shared.

This strong sense of shared responsibility confirms the program's foundation as a partnership, anchored in trust, discipline, and collective action to break the yoke and bondage of poverty that engulfed many Filipinos since our country became the Republic of the Philippines.

CONCLUSION

This study explored the benefits experienced by both present and exited beneficiaries of the Pantawid Pamilyang Pilipino Program (4Ps) through the lens of Appreciative Inquiry. The results affirm that the program has made substantial contributions to improving the lives of marginalized Filipino families, particularly in the domains of education, human development, and values formation.

The findings demonstrate that the 4Ps program has significantly supported children's education, instilled discipline and motivation in the children through its conditionality, and contributed to the development of human capital. The study also highlights the program's role in fostering a culture of responsibility and accountability among beneficiaries. This progression suggests that the program not only addresses immediate needs but also facilitates intergenerational lives uplifting.

Furthermore, employing the Appreciative Inquiry 4D Cycle (Discover, Dream, Design, and Deliver) the study captured how beneficiaries recognized the program's value on health and education, envisioned its continued relevance and sustainability, proposed enhancements in terms of subsidy use and employment priority, and expressed readiness on their obligations to sustain positive outcomes. These insights underscore the enduring impact of 4Ps as more than a financial assistance initiative, but as a transformative social development tool.

REFERENCES

- Amayo, Elmer & Juplo, Myrna. (2019). Exploring the Brand of Recoletos Education: An Interpretative Phenomenological Analysis. *Experience Philippine Social Science Journal*. Article 11, Section 9, 1987 Philippine Constitution.
- Asian Development Bank. (2020). *IMPACT EVALUATION OF THE PANTAWID PAMILYANG PILIPINO PROGRAM* (Note 3: Third Wave Impact Evaluation of Pantawid: Further Analysis).
- Bauchet, J. Undurraga, E.A., Reyes-Garcia, Behman, J.R. & Godoy, R.A. (2018). Conditional cash transfers for primary education: Which children area leftout?. *World development*, 105, 1-12.
- Becker, G.S. (1962). Investment in human capital: A theoretical analysis. *The Journal of Political Economy* 70 (October): 9-49.
- Cooperrider, D. L., & Whitney, D. K. (2005). *Appreciative Inquiry: A positive revolution in change*. https://appreciativeinquiry.case.edu/uploads/intro_ai_slides.pdf
- Curry, M.S. Cadiogan, A.T., & Giugliano, R.G. (2013). "Brazil's Bolsa Familia and the Philippines' 4Ps" T Programs: Considering South-South Cooperation for Social Protection. *Asia Pacific Social Science Review*, 13 (1).
- Fernandez, L., & Olfindo, R. (2011). Overview of the Philippines' Conditional Cash Transfer Program: The Pantawid Pamilyang Pilipino Program (Pantawid Pamilya). *Philippine social protection note*, 2 (2), 1-12.
- Flores, M. J. S., Espinoza, C. a. B., Enrico, H. C., & Casimiro, R. R. (2019). Pantawid Pamilyang Pilipino Program (4PS): Its Effect on the Academic Performance of Student-Beneficiaries in Calaba National High School in the Philippines. *Journal of Public Administration and Governance*, 9(2), 193. <https://doi.org/10.5296/jpag.v9i2.14762>
- Maqbool, et al. (2022). Impact of Conditional Cash Transfer (CCT) Incentive Program for Improving Girls Education in District Swat Pakistan). *Research Journal of Social Sciences & Economics Review* available at <https://ojs.rjsser.org.pk/index.php/rjsser/article/download/45/250>
- Orbeta Jr, A. C., Ann Melad, K. M., & Victoria Araos, N. v. (2021). Longer-term Effects of the Pantawid Pamilyang Pilipino Program: Evidence from a Randomized Control Trial Cohort Analysis (Third Wave Impact Evaluation). In *DISCUSSION*
- Orbeta, A. C., & Paqueo, V. B. (2016). Pantawid pamilya Pilipino program: Boon or bane? (No. 2016-56). PIDS Discussion Paper Series. PAPER SERIES. <https://www.pids.gov.ph>

- Philippine Institute for Development Studies(2020).Regression Discontinuity Report.
- Reyes, C. M., Tabuga, A. D., Mina, C. D., & Asis, R. D. (n.d.). Promoting Inclusive Growth through the 4Ps Suriansamga Pag-aaralPangkaunlaran ng Pilipinas.
- The World Bank (2017). FAQs about the Pantawid Pamilyang Pilipino Program(4Ps). World Bank. Available at: <https://www.worldbank.org/en/country/philippines/brief/faqs-about-the-pantawidpamilyangpilipino-program>
- Velarde, R., & Fernandez, L. (2011). Welfare and distributional impacts of the Pantawid Pamilyang Pilipino Program. The World Bank Group: Philippine Social Protection Note, 201(3).
- Villaflor, M. R. D., Posadas, K. F., Mallari, J. B., Villamayor, R. C., & Cruz, B. A. F. D. (2022). Evaluation of the implementation of Pantawid Pamilyang Pilipino Program (4Ps) to student-beneficiaries in the secondary schools of San Isidro, Nueva Ecija. *Journal of Advanced Education and Sciences*, 2 (4), 32–36. Retrieved from <https://www.dzarc.com/education/article/view/181>
- World Bank Group. (2017). FAQs about the Pantawid Pamilyang Pilipino Program (4Ps). In World Bank. <https://www.worldbank.org/en/country/philippines/brief/faqs-about-the-pantawid-pamilyang-pilipino-program#:~:text=A%20study%20estimates%20that%20the,livelihood%20opportunities%20for%20the%20poor.>

CYTOTOXICITY AND TERATOGENICITY OF THE FORMULATED TEA PRODUCT OF *Bidens Pilosa* FLOWERS

Myrtle Joy L. Galate
Central Luzon State University
Science City of Muñoz, Nueva Ecija

ABSTRACT

Bidens pilosa, locally known as "dadayem," is one species that stands out in its genus due to its diverse reported biological activities with the extracts of its leaves, stem, roots, and seeds. However, research on its flowers' therapeutic potential and product development was not fully explored. Hence, this study evaluated the cytotoxic and teratogenic properties of the formulated tea product from *B. pilosa* flowers. The tea product was extracted using hot water extraction. Cytotoxicity assessment was done employing the Brine shrimp lethality assay, which revealed that the two highest hot water extract concentrations of 1000 ppm and 10,000 ppm have 0.50% and 1% lethal effects on test Brine shrimp nauplii after 24 hours, respectively. Teratogenicity evaluation was done through a teratogenicity assay, revealing that the extracts have teratogenic effects, as were observed with the 1000 ppm and 10,000 ppm concentrations, having more than 0.50% and 1% coagulation effects on test zebrafish eggs after 72 hours. Furthermore, the sensory evaluation of the formulated flower tea product of *B. pilosa* compared with a commercially available tea product showed no significant difference in its acceptability based on the ratings. Consumption of 3g per 250 ml of hot water-infused *B. pilosa* flower tea product is safe. Future research should explore using *B. pilosa* flowers in pharmaceuticals and herbal tea, focusing on marketability, mass production, and nutritional aspects while considering qualitative parameters like dust and moisture content for shelf life.

Keywords: Pantawid Pamilyang Pilipino Program, appreciative inquiry, beneficiaries, conditional cash transfer, intergenerational poverty

INTRODUCTION

Plants are rich in bioactive chemicals that perform essential biological functions. Many plants produce these secondary metabolites with specific roles like defense mechanisms or anti-herbivory qualities (Said & Ibrahim, 2024). Depending on their concentration, different plant parts may react differently to the stimulation that triggers their synthesis. Additionally, oxidative stress, the root cause of many chronic diseases in humans, is lessened by most plant metabolites' antioxidant and antiradical properties (Azooz & Ahmad, 2015).

Antioxidant-rich plants are usually utilized for the production of tea. In ancient Asian traditional medicine, which began in China in 2732 BCE, tea was a helpful remedy for various illnesses. Over the years, it has become an inseparable part of most cultures worldwide (Prasanth, Sivamaruthi, Chaiyasut & Tencomnao, 2019).

Almost every nation in the world consumes tea, which is produced and consumed in approximately 3 billion kg worldwide yearly. It is known for its abundance of antioxidants. Numerous studies suggest that tea may help the cardiovascular system function properly, reduce body mass, and lower the risk of cancer and neurological illnesses (Hayat, Iqbal, Malik, Bilal, & Mushtaq, 2015).

It is one of the most popular beverages consumed globally, has a long history, and is the most popular plant-derived beverage consumed worldwide as a wellness beverage for consumers. Numerous bioactive compounds, particularly polyphenols, which have anti-inflammatory, apoptotic, and antioxidant properties, are found in tea and are primarily utilized for medical and therapeutic purposes. It is valued for its potential health benefits, which preclinical and epidemiological studies, aroma content, and cultur-

al association have confirmed (Alam, Ali, Ashraf, Bilgrami, Yadav & Hassan, 2022). Hence, the demand for tea extract and isolated tea biomolecules in the pharmaceutical and food industries as natural antioxidants and medicinal remedies continually increases.

The Department of Environment and Natural Resources reports approximately 13,500 plant species in the Philippines. 1500 have been found to have therapeutic and medicinal properties, and about 3500 are endemic. This represents a wide variety of novel bioactive compounds that may be utilized to treat diseases. (Ivanz Joshua, Santos, Ty, & Yu *et al.*, 2018).

However, given the tremendous number of plant species in the Philippines, only a few have been evaluated for their medicinal potential, especially the native plant species usually found in areas where the ethnic communities live and grow in the wild. Research on the therapeutic potentials of such species to attain the maximum potential of these plants as medicine and therapeutics, and to validate their pharmacological activities, is crucial. The significance of indigenous medicinal plant knowledge within broader healthcare systems has been increasingly recognized in recent years (Knapp, 2019; Pironon, Ondo, Diazgranados, Allkint, Baquero *et al.*, 2024). Therefore, investigating the potential of utilizing indigenous materials to produce herb teas is essential. The indigenous plant used in this study is *Bidens pilosa*, which is abundant in Brgy. Imugan, Sta. Fe, Nueva Vizcaya.

With over 240 species, the genus *Bidens* (Asteraceae) is notably invasive. In this genus, *B. pilosa*, often referred to locally as "dadayem," stands out for its numerous physiological traits and biological activities documented from its extracts, fractions, and compounds. Commonly referred to as "hairy beggar ticks", this plant is known by other names such as "hitchhikers", "black-jack", "farmer's friends", and "Spanish needles". Although native to the Americas, *B. pilosa* is now widespread in subtropical and tropical regions, including Eurasia, Africa, Australia, and South America. It is considered an invasive species in some areas due to its prolific growth and adaptability (Bessada, Barreira, Oliveira, & Beatriz, 2015). Also, it is known as "picão preto" in Brazil, a medicinal plant widely used for treating inflammation, arterial hypertension, ulcers, diabetes, and all types of infections (Taylor, 2015).

In some parts of the world, *B. pilosa* is consumed as food and is utilized in traditional medicine in different nations, which is believed to cure several illnesses and infections, most frequently rheumatism, diarrhea, and issues with the ears, eyes, and teeth. The plant has traditionally been employed in ethnomedicine to treat liver and stomach issues, skin infections, and malaria. The plant's bioactive phytochemical constituents, found explicitly in the leaves, stems, seeds, and roots, particularly sesquiterpene lactones and polyacetylenes, which prevent the growth of harmful microbes, appear to be linked to its pharmacological properties. The flavonoids, which are considered effective anti-inflammatory agents, and an exploitable number of phenolic compounds with free radical scavenging potential (Singh, Passari, Singh, Leo, Subbarayan, Kumar *et al.*, 2017). However, there are no studies yet for its flowers.

B. pilosa is observed to be abundant in the Philippines. Still, research about therapeutic potentials has not been fully explored, specifically its flowers, which have not been considered in studies that have been conducted previously. This study focused on the flowers of *B. pilosa*, particularly on manufacturing these into a tea product and evaluating the flower tea product's cytotoxic and teratogenic bioactivities.

STATEMENT of OBJECTIVES

The study's main objective was to formulate tea products from *B. pilosa* flowers and to evaluate the bioactivities of the hot water extract of the *B. pilosa* flowers tea product. Specifically, this study was guided by the following objectives:

1. To formulate a tea product from *B. pilosa* flowers;
2. To determine the cytotoxic property of the tea product from *B. pilosa* flowers;
3. To determine the teratogenic property of the tea product from *B. pilosa* flowers, and
4. To evaluate the acceptability of the formulated tea product of *B. pilosa* flowers through sensory evaluation compared to a commercially available flower tea product.

METHODOLOGY

This study used the experimental research design, which employed laboratory procedures to evaluate the cytotoxic and teratogenic activities of the *Bidens pilosa* flower tea. The cytotoxicity assay utilized brine shrimps (*Artemia salina*) as test organisms. In contrast, the teratogenic assay utilized zebra fish (*Danio rerio*) embryos using the hot water extract of the said plant sample treatment. Brine shrimps were exposed to different concentrations of the hot water extract of *B. pilosa* flower tea and the zebra fish embryos.

Data Gathering Procedure

The flowchart below (Figure 1) presents the different methods employed in the study's conduct. In general, the flowers were collected, processed as a raw material in the laboratory, and formulated as a tea product extracted using hot water extraction with a temperature of 80 degrees Celsius. The hot water extraction of *B. pilosa* flower tea was used in the cytotoxic and teratogenic assays.

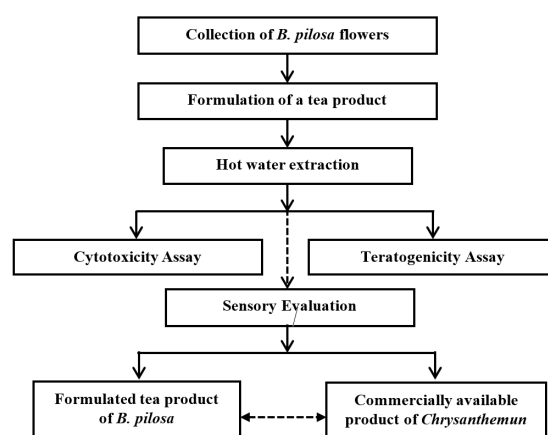


Figure 1. Flowchart of the procedures

Collection and Preparation of Flower Sample

B. pilosa flowers were collected and photo-documented in the forest of Brgy. Imugan, Sta. Fe, Nueva Vizcaya. The collected flower samples were washed before their formulation as a tea product.

B. pilosa Flower Tea Product Formulation

The mature flowers of *B. pilosa* were carefully inspected, and all foreign materials were removed. The samples were then gently rinsed in tap water. A method for processing tea flowers was adopted from Jiwei (2013), mainly comprising the following steps:

Withering the Tea

This is a fermentation process. A controlled withering process is to reduce the moisture content of the flowers to allow their aroma and flavor to develop and ensure that the flowers will be prepared for further processing. Flower tea has a great sensitivity to temperature; *B. pilosa* flowers were gently laid out on bamboo mats or tarps with forced air. Therefore, a 25 – 30 ° C bed temperature was used with a wind speed of 2 m/s for 2 – 3 hours.

Fixing

Flower tea is very sensitive to temperature, especially with freshly picked tea flowers. If the temperature is too high, there will be scorched petals and a burning smell of the flower tea. If the flower tea produces a brown color, it will seriously affect the product's appearance. However, if the temperature is too low, it will take too long and reduce production efficiency. Fixing with a hair dryer as an alternative to a vacuum dryer was used at 30 – 50° C for 12 minutes.

Dehydration

High-temperature dehydration was done in preparation for the next step – baking. The flowers were dehydrated inside a microwave oven, and the temperature was set at 100 ° C for 15 minutes.

Baking

The baking or roasting sequence is another step in processing tea flowers. To maintain its freshness and nutritional value, a fresh tea flower must have a moisture content of about 75%, determined by its mass. The flowers were dried in a short time. Natural drying is low-cost, but environmental factors significantly impact the quality of the product. Natural convection drying will have a slow drying rate, especially under high humidity conditions. An extended drying time will lead to the destruction of a large portion of the flower quality.

Therefore, the present study employed a two-stage baking process. In the first phase, the flowers were baked at a temperature set between 60°C and a wind speed of 2 m/s to remove moisture. After the tea flower reached a 75 – 80% weight loss rate, it was subjected to the second phase. In the second phase, the baking temperature continued to increase, resulting in a much higher loss rate of the tea flower. At the same time, the temperature was then adjusted to 40° C with a wind speed of 0.5 m/s. The roasting process stopped when the tea flower reached an 85~90% weight loss rate.

Low-temperature drying

After baking, the flowers were cooled under natural conditions to absorb moisture from the air, thus reducing the short shelf life of the tea flowers. A low-temperature drying adsorbent was used. The flowers were placed in a room set at 0 – 5 ° C for two hours, and an adsorbent was used, using anhydrous sodium sulfate, calcium chloride, and silica gel mixture. Then, the processed flowers were packaged using small porous bags containing 3 grams of the processed *B. pilosa* flowers tea product.

Selection of Panelists

The number of panelists was decided based on sensory evaluation guidelines (IFT, 1981), which indicate no recommended 'magic number' for a sensory evaluation method of preference and/or acceptance and/or opinions for a product. The minimum number is generally 24 panelists, sometimes considered rough product screening. Panelists were chosen to partake in the sensory evaluation based on their availability and familiarity with tea or flower tea in particular.

B. pilosa Flower Tea Beverage Prior to Sensory Evaluation

The hot water infusion procedure is critical in determining the prepared beverage's sensory characteristics during tea preparation. The preparation of tea as a beverage is determined by various factors, such as the tea-to-water ratio, length of infusion (Choi *et al.*, 2000), the temperature of infusion (Jaganyi *et al.*, 1999; Choi *et al.*, 2000; Jaganyi *et al.*, 2000; Weerts *et al.*, 2005; Xia *et al.*, 2006), infusing water, and type of tea (Liang *et al.*, 2003).

Tea preparation follows a simple procedure. Hot water (70 °C to 100 °C) is poured over the plant part(s) in a container and allowed to steep for a few minutes (usually 1 – 5 min), after which the plant material, usually contained in a bag, is removed from the container. The temperature of the water used and the duration of steeping affect the 'strength' of the tea. Tea is drunk hot, warm, or iced. Sometimes, milk or a sweetener such as honey or sucrose may be added before drinking (Hakim, Weisgerber, Harris, Balentine, Van-Mierlo & Paetau-Robinson, 2000).

Sensory Evaluation of the Tea Samples

A preference rating of the formulated tea was based on its color, flavor, taste, aroma, and overall acceptability. Tea samples (12 g) were infused in a porcelain teapot for 5 minutes with 1 L of boiled water and were poured into a tea-tasting cup for quality assessment. Each member offered one sample of the *B. pilosa* and chrysanthemum flower tea. The sensory evaluation testing was done in an area with a controlled temperature, free from unusual foreign odors. The panel space was utterly freed from food/chemical odors, surplus sound, and a mix of daylight.

The judges were given the prescribed form to record their sensory observations and check their ratings. Based on Larmond (1977), the sensory evaluation ratings indicated in the sensory evaluation rating sheet were: nine (9) = Like extraordinarily; eight (8) = Like terribly much; seven (7) = Like; six (6) =

Like slightly; five (5) = neither like nor dislike; four (4) = Dislike slightly; three (3) = Dislike moderately; two (2) = Dislike; and one (1) = Dislike extremely.

Hot Water Extraction of *B. pilosa* Flower Tea Product

The hot water extraction was done by weighing 10g of the formulated flower tea and 300 ml of distilled water poured into a beaker. This set-up was placed in a one-hour water bath at 80 – 95°C. After doing so, the extract was transferred to another beaker and filtered by removing the flowers using a sterilized filter paper and funnel. The hot water extract was cooled down before being subjected to cytotoxic and teratogenic assays.

Brine Shrimp Assay

The cytotoxicity assay was based on Pateros and Uy (2010) with a slight modification. Instead of using a 96-well plate, vials were utilized in the brine shrimp lethality assay. The flower extract cytotoxicity was determined using brine shrimp (*Artemia salina*). Brine shrimp eggs were hatched on an ASW (Artificial Salt Water) prepared by dissolving 3.8 g of salt in 100 mL of distilled water in an Erlenmeyer flask. The ASW was placed in a Petri dish (a hatching chamber) with a dark (covered with foil) partition and an illuminated area. Brine shrimp eggs were added to the dark side, while the illuminated area was illuminated to attract hatched brine shrimps. After two days, the hatching of brine shrimps ended.

In the three replicates, 10,000 ppm of the *B. pilosa* flower tea hot water extract was measured and put into three vials, followed by 1000 ppm, 100 ppm, 10 ppm, and 1 ppm in every three vials. Ten (10) brine shrimp nauplii were placed into each vial of the test concentrations of *B. pilosa* flower tea hot water extract. The test concentrations were observed for their cytotoxic activities for 24 hours with a six-hour interval. *B. pilosa* flower tea hot water extract has a cytotoxic property if the test brine shrimp nauplii die or no movements are observed with them. After 24 hours, the mortality rate of the brine shrimp was computed using the formulae below:

$$\% \text{Mortality} = \frac{\text{No. of Dead Brine Shrimp}}{\text{No. of Initial Live Brine Shrimp}} \times 100$$

Spawning of Zebra Fishes

The procedure for spawning zebra fish was adapted from the study of Dulay, Kalaw, Reyes, and Cabrera (2014). Adult zebra fish, with a 1:4 ratio of mature males and females, were borrowed at the Freshwater Aquaculture Center at the Science City of Muñoz, Nueva Ecija, before spawning. The zebra fish were transferred to a prepared aquarium filled with non-chlorinated tap water and were confined in a plastic mesh to prevent the adult fish from devouring their eggs. Subsequently, spawning was done by incubating the fish in a dark condition for 12 hours.

After the first phase of incubation, which included spawning, the aquarium was exposed to light to stimulate fertilization (Dulay *et al.*, 2014, as cited by Sogan *et al.*, 2017). Next, the fertilized eggs were collected and washed in a Petri plate before the microscopic examination to determine that they were normal and at the segmentation phase before subjecting them to experimental treatment.

Treatment for Teratogenicity Test

The methods used for the teratogenicity assay followed the procedure of Dulay *et al.* (2014). Embryo water was used as a diluent to obtain the different treatment concentrations. Before that, the initial concentration of the extract, which is 3.3%, was computed first using the formula:

$$\text{Initial Concentration} = \frac{\text{Total mass of the flower tea}}{\text{Total volume of the distilled water}} \times 100$$

From here, the other extract concentrations 1%, 0.5%, 0.1% 0.05% and 0.01% were computed using the formula:

$$C_1 V_1 = C_2 V_2$$

where C_1 = initial concentration
 V_1 = unknown volume
 C_2 = the desired concentration
 V_2 = 10 mL (desired volume for all treatments, including the control)

The obtained value of V_1 , which is 3.0 mL, was subtracted from 10 mL of V_2 to get the volume of the diluent to be added to the hot water extract of *B. pilosa* flower tea. Each treatment concentration of *B. pilosa* flower tea hot water extract was prepared using embryo water as a diluent with 1%, 0.5%, 0.1%, 0.05%, and 0.01%. After, they were placed into sterile vials.

Four embryos at 12 hours post-fertilization were transferred into separate sterile vials containing 10 mL of the different concentration treatments and incubated at room temperature to complete the process. Test zebra fish embryos were then observed using a stereomicroscope under 40X magnification after 12, 24, 36, 48, and 72-hour post-treatment application (hpta) for the mortality, hatchability, heartbeat rates, and acquired morphological abnormalities. Three replicates were done in this study to ensure the validity of the results.

Percent mortality is computed through the formula:

$$\%Mortality = \frac{\text{No. of Dead Zebra fish Embryo}}{\text{No. of Initial Live Zebra fish Embryo}} \times 100$$


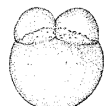
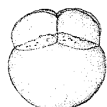
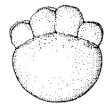


Furthermore, the hatchability rate is computed using the formula:







$$\%Hatchability = \frac{\text{No. of Hatched Zebrafish Embryo}}{\text{No. of Initial Zebra fish Embryo}} \times 100$$

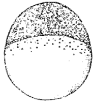

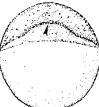


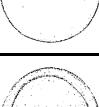
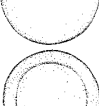
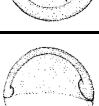
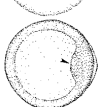
Stages of Normal Embryonic Development of Zebra Fish (*Danio rerio*) Embryos

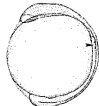
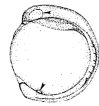

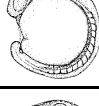
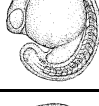

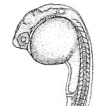
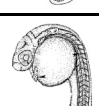

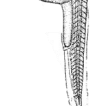
To better understand the normal development of zebra fish embryos, the following table was adapted from Sogan *et al.* (2017), which shows the different stages or periods of development starting from fertilization, zygote, cleavage, blastula, gastrula, segmentation, pharyngula, and until the hatching period. Images of zebra fish embryos taken in the study of Kimmel, Ballard, Kimmel, Ullmann, and Schilling (1995) were also included to supplement the aforesaid tabulated data (Table 1).


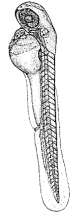
Table 1: Stages of Normal Development of Zebra Fish


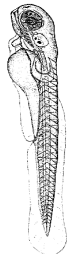
Time (hours)	Stages	Description	Supporting image
0.2	Zygote period	Cytoplasm accumulated at the animal pole, and the blastodisc forms	
0.45-0.75	Cleavage period	Two equally sized blastomeres;	
1-1.25		4- cell stage	
		8- cell stage	
		16- cell stage	
1.75-2		32- cell stage	

Time (hours)	Stages	Description	Supporting image
1.75-2	Cleavage period	64- cell stage	
2.25	Blastula period	128- cell, cleavage planes irregular	
2.5		256- cell	
2.75		512- cell	
3		1k- cell	
3.3		High	

Time (hours)	Stages	Description	Supporting image
3.7	Blastula period	Oblong; forms an elliptical shape due to flattening	
4		Spherical shape, formation of a flat border between the blastodisc and the yolk	
4.3		Dome; shape remains spherical. Yolk cell bulges as it approaches the animal pole; starts of epiboly	
4.7		30% epiboly; blastoderm, an inverted cup of uniform thickness, margin reaches 30% of the distance between the animal and vegetal poles	
5.3	Gastrulation period	50% epiboly, the thickness of the blastoderm remains equal	
5.7		Formation of the germ ring at the animal pole	
6		Formation of the embryonic shield as visible from the animal pole	
8 – 9		75% epiboly- dorsal side distinctly thicker, epiblast, hypoblast, evacuation zone visible 90% epiboly- thickening of the brain rudiment and notochord rudiment becomes distinct from the segmental plate	
10		Bud- tail bud prominent, notochord rudiment distinct from the neutral keel, early polster, midsagittal groove in polster, midsagittal groove in the anterior neutral keel	

Time (hours)	Stages	Description	Supporting image
11	Segmentation period	3- somites	
12		6- somites	
14		10- somites	
16		14- somites	
18		18- somites	
19.5		21- somites	
22	Pharyngula period	26- somites	
25		Prim- 6	
31		Prim- 16	
35		Prim- 22	

Time (hours)	Stages	Description	Supporting image
42	Hatching period	High pec	
48		Long pec	

Time (hours)	Stages	Description	Supporting image
60	Hatching period	Pec fin	
72		Protruding mouth	

Treatment of Data

To evaluate the teratogenicity of *B. pilosa* flower tea product, the following parameters established by Nagel (2002) were used to assess the treated test zebra fish embryos with the parameters: normal, teratogenic (tail and heart, scoliosis, malformation of head, and growth retardation), and lethal (coagulation, no heartbeat, and no somites or segments). Hatchability, mortality, and heartbeat rates were recorded, and death is indicated either by no visual heartbeat in a tested embryo or as a coagulated embryo.

FINDINGS

Cytotoxic Activity of the Formulated *B. pilosa* Flower Tea Hot Water Extract

Using brine shrimp nauplii, the cytotoxicity of the hot water extract was evaluated using the parameters established by Nagel (2002) after 6, 12, 18, and 24-hour exposure. Table 2 below presents the percent mortality of brine shrimp nauplii after exposure to various treatments at increasing time points (6-hour intervals).

Table 2: Mortality Rate of Brine Shrimp (*Artemia salina*) as Treated with Different Concentrations of *B. pilosa* Flower Tea Hot Water Extract

Concentration of Flower extract (%)	Percent Mortality			
	Time Interval (hpta)			
	6	12	18	24
1	0*	0	100	100
0.50	0	0	86.7	100
0.10	0	0	0	20
0.05	0	0	0	0
0.01	0	0	0	0
Control	0	0	0	0

*Values are means of three replicates per treatment, hpta (hour post-treatment application)

The conducted experiment found that the toxicity of the extract depends on the dose and time of exposure to the hot water extract of the *B. pilosa* flower tea product. At 6 to 12 hpta, zero mortality was observed in all of the concentrations of the test extract. After 18 hours of exposure, the mortality rate of the 0.50% concentration was 86.7% and 100% for the 1% concentration. After further exposure for 24 hours, there is a 100% mortality rate for 1% and 0.50% concentrations. The 0.10% concentration has a low mortality rate of only 20%, and the concentrations of 0.05% and 0.01%, and the control obtained no mortality, which implies that these concentrations are not toxic.

In this study, the hot water extract concentration differs from the tea infusion concentration, which contains 3g per 250 ml. Through toxicological evaluation, Cardenas *et al.* (2006) have proven that

B. pilosa infusion is not cytotoxic. It was confirmed that the *B. pilosa* infusion did not exhibit toxicity at a single dose of 2000 mg/ Kg and repeated 1000 mg/ Kg doses for twenty-eight (28) days. A similar study on the plant's toxicology was conducted by Nadia et al. (2017) on the antiplasmodial activity and cytotoxicity of extracts and fractions of *B. pilosa*. It was found that their tested extracts and fractions were non-cytotoxic or had very low toxicity on the HEPG2 human liver cancer cell line and L929 mammalian cell line. The study utilized ethyl acetate extract, the most effective fraction that showed high antiplasmodial activity with no cytotoxicity. The results may indicate *B. pilosa's* safety as a drug for mammalian organisms in their observation.

Teratogenic Activity of the Formulated *B. pilosa* Flower Tea Hot Water Extract

Using the zebra fish embryos, the hot water extract's teratogenicity was evaluated using hatchability, the lack of a visual heartbeat, or the presence of a coagulated embryo. Table 3 below presents the percent mortality of zebra fish (*Danio rerio*) embryos after exposure to various treatments (%, 0.5%, 0.1%, 0.05%, and 0.01%) at increasing time points (12-hour interval).

Table 3: Hatchability Rate of Zebra Fish Embryos (*Danio rerio*) as Treated with Different Concentrations of *B. pilosa* Flower Tea Hot Water Extract

Concentration of Flower extract (%)	Percent Hatchability					
	Time Interval (hpta)					
	12	24	36	48	60	72
1	0*	0	0	0	0	0
0.50	0	0	0	0	0	0
0.10	0	0	0	0	16.75	16.75
0.05	0	0	0	16.75	58.25	100
0.01	0	0	0	66.75	100	100
Control	0	0	33.25	100	100	100
*Values are means of three replicates per treatment, hpta (hour post-treatment application)						

The conducted experiment found that the extract's teratogenicity depends on the dose and time of exposure to the extract. Successful embryonic development of zebra fish embryos is indicated by hatching starting at 36 hpta and ending at 72 hpta. After 36 hours of exposure, no hatched zebra fish embryos were observed in all test concentrations of the hot water extract of the *B. pilosa* flower tea product. Still, there was 33.25% hatchability in the control set-up (embryo water), and it was observed that there was 100% hatching in the control after 48 hours. After 48 hours, the hatchability of the 0.01% concentration was 66.75%, and 16.75% hatchability in the 0.05% concentration. After 60 hours, there was 100% hatchability in the 0.01% concentration, 58.25 % in the 0.05% concentration, and 16.75 % hatchability in the 0.10% concentration. After further exposure for 72 hours, the hatchability rate of 0.05% and 0.01% concentrations was 100%, while there was 16.75 % hatchability in the 0.10% concentration. This means that the concentrations of 0.10%, 0.05%, and 0.01% have higher hatchability rates.

Based on the results, the various test concentrations of *B. pilosa* flower tea hot water extract have affected the hatchability of zebra fish eggs or embryos. Hatchability was reduced in increasing concentrations of the hot water extract. The low hatchability and delayed hatching are evident by growth retardation. According to Weigt, Huebler, Braunbeck, and Broschard (2011), a reason for the delayed hatching could be due to developmental abnormalities in the growth of zebra fish embryos, which result in the inability of the chorion to break.

Limited movement and coagulation of zebra fish embryos have been the most notable teratogenic effects of *B. pilosa* flower tea hot water extract, as shown in Figures 2 and 3 below. These morphological endpoints were evident in treated embryos at 1% and 0.50% concentrations of the formulated tea product from *B. pilosa* flowers after exposure to 12, 24, 36, 48, 60, and 72 hours.

Figure 2 below shows normal zebra fish embryo development after 48 hpta exposure to the control embryo water and 0.01% and 0.05% concentrations of the hot water extract of the formulated tea product from *B. pilosa* flowers.

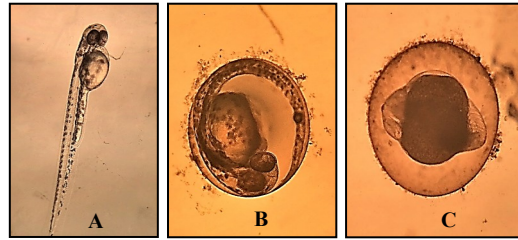


Figure 2. Observed normal morphological features of zebra fish embryos after 48 hpta. (A) A normal hatched zebra fish embryo after 48 hpta (in the control embryo water). (B, C) Normal unattached embryos were exposed to 0.01% and 0.05% concentrations of the *B. pilosa* flower tea hot water extract after 48 hpta.

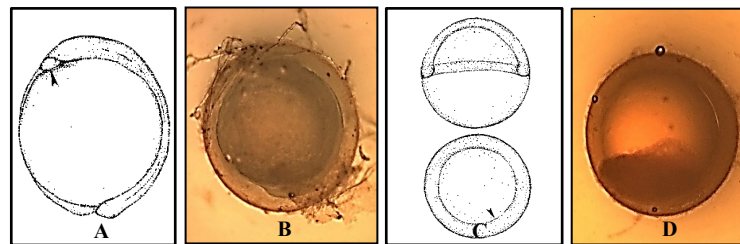


Figure 3. Teratogenic effects of *B. pilosa* flower tea hot water extract on zebra fish embryos' morphological features/development after 48 hpta. (A) Normal development of zebra fish embryo at gastrulation stage after 10 hrs. (B) Stunted growth of an embryo and late appearance of pigmentation at 1% concentration after 48 hpta. (C) Normal development of the zebra fish embryo at the gastrulation stage after 6 hrs. (D) Coagulated embryo treated with 1% concentration of the hot water extract.

Figure 3A shows a zebra fish embryo's normal development with a prominent bud-tail. The notochord rudiment is distinct from the neutral keel. There is an early polster, a midsagittal groove in the polster, and a midsagittal groove in the anterior neutral keel. At the same time, Figure 3B shows a noticeable teratogenic effect of the 1% concentration after 48 hpta of exposure as the zebra fish embryo is stunted or delayed in growth because its development is still at the 10-hour gastrulation period. Figure 3C shows a zebrafish embryo's normal development, with a formed embryonic shield visible from the animal pole. At the same time, in Figure 3D, the zebra fish embryo is coagulated after 48 hrs of exposure to the 1% concentration because its developmental stage is still at the 6-hour gastrulation period.

The teratogenic effect of the tea product from *B. pilosa* flowers can be attributed to its bioactive components. According to Xuan et al. (2013), individual compounds derived from the whole herb *B. pilosa* have different biological and pharmacological activities. In connection with this result, pregnant women must be forewarned that the intake of any product or drug, either natural or synthetic, must always consider the risk-benefit ratio (Sanseverino *et al.*, 2001).

Sensory Evaluation for Formulated Tea Product from *B. pilosa* Flowers

The formulated tea from *B. pilosa* flowers was evaluated using the previously mentioned parameters. Panelists were chosen to partake in the sensory evaluation based on their availability and familiarity with tea or flower tea. Table 4 presents the sensory evaluation results of *B. pilosa* flower tea compared to the commercially available tea product, Chrysanthemum tea.

Table 4: Result of the Sensory Evaluation for *B. pilosa* Flower Tea Product

Product	N	Mean	Std. Dev.	Level	T	df	Sig. (2-tailed)
Color	<i>Bidens pilosa</i>	30	7.53	1.137	Like very much	1.56	47.399
	Commercial	30	6.90	1.900	Like	7	
Flavor	<i>Bidens pilosa</i>	30	6.77	1.832	Like	.691	58
	Commercial	30	6.43	1.906	Like slightly		
Taste	<i>Bidens pilosa</i>	30	6.80	1.864	Like	.762	58
	Commercial	30	6.40	2.191	Like slightly		

	Product	N	Mean	Std. Dev.	Level	T	df	Sig. (2-tailed)
Aroma	<i>Bidens pilosa</i>	30	7.07	1.780	Like	-.537	58	.593
	Commercial	30	7.33	2.057	Like			
Overall	<i>Bidens pilosa</i>	30	7.17	1.487	Like	.582	58	.563
	Commercial	30	6.90	2.023	Like			

The mean scores of *B. pilosa* flower tea products in terms of color, flavor, taste, and overall acceptability are higher than those of Chrysanthemum flowers' commercially available tea products. However, regarding aroma, Chrysanthemum's commercially available tea product gained a higher mean score than that of *B. pilosa* flower tea.

The scores of the conducted sensory evaluation parameters were as follows: in terms of color ($t=1.567$, $p=0.124$); flavor ($t=0.691$, $p=0.493$); taste ($t=0.762$, $p=0.449$); aroma ($t=-0.537$, $p=0.593$); and overall ($t=-0.582$, $p=0.563$). There is no significant difference between the formulated tea product from *B. pilosa* flowers and the commercially available tea product of *Chrysanthemum* flowers.

Sensory evaluation for a particular developed product is critical for its marketability and acceptability by potential consumers. Unlike marketing, sensory evaluation is typically product-oriented in the Research and Development approach, where consumer orientation is the most basic concept. Sensory analyses are the main integration concepts with food and beverage product marketing. The priority is on people's perceptions of sensory quality rather than taste evaluations. For a marketer, it is more important to know what consumers think they taste than what they taste (Ackbarali & Maharaj, 2014).

CONCLUSIONS

This presents the conclusion of the study. This study explored the potential of *Bidens pilosa* flowers as a viable tea product while assessing their cytotoxic and teratogenic effects. The findings demonstrated that:

1. The *B. pilosa* flower tea hot water extract at 0.50% and 1% concentrations exhibited a lethal effect on test brine shrimp nauplii;
2. Teratogenic effects were observed at extract concentrations higher than 0.50% but lower than 1%;
3. No significant difference was noted in the sensory evaluation between the formulated *B. pilosa* flower tea and the commercially available Chrysanthemum flower tea;
4. *B. pilosa* flowers can be formulated into a flower tea product, but the highest concentrations of its hot water extract exhibit cytotoxic and teratogenic activities;
5. Sensory evaluation results showed that the formulated flower tea product is acceptable based on the ratings of the qualified tasters;
6. A consumption of 3g per 250 ml of hot water infused with *B. pilosa* flower tea is considered safe as a beverage.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following are recommended:

1. For future research
 - a. *B. pilosa* flowers, as this herb species is indigent and abundant in the Philippines, can be a source of novel bioactive compounds that must be studied for their bioactivities.
 - b. Formulate pharmaceuticals and other products from *B. pilosa* flowers.
 - c. Research on business aspects such as product marketability and mass production may benefit the local tea industry, particularly in Nueva Vizcaya.
 - d. Utilization of other qualitative parameters, such as dust and moisture content, to determine the shelf life of the tea product from *B. pilosa* flowers.
 - e. Include nutritional parameters such as total protein, carbohydrates, fat, etc., since tea formulation requires physical and health information.
2. The flower part of the plant can be used as an additional ingredient in herb tea.

REFERENCES

- Ackbarali, D. S., & Maharaj, R., (2014). Sensory evaluation as a tool in determining acceptability of innovative products developed by undergraduate students in food Science and Technology at the University of Trinidad and Tobago. *Journal of Curriculum and Teaching*, 3 (1). DOI: 10.5430/jct.v3n1p10
- Alam, M., Ali, S., Ashraf, G. M., Bilgrami, A. L., Yadav, D. K., & Hassan, M. I. (2022). Epigallocatechin 3-gallate: From green tea to cancer therapeutics. *Food Chemistry*, 379, 132135–132135. DOI: 10.1016/j.foodchem.2022.132135
- Azooz, M. M., & Ahmad, P. (2015). Plant secondary metabolites. *School of the Environment, Faculty of Science, University of Technology, Sydney, Australia*. DOI: 10.1002/9781119081005.ch15
- Bessada, S. M. F., Barreira, J. C. M., & Oliveira, M. Beatriz. P. P. (2015). Asteraceae species with most prominent bioactivity and their potential applications. *Industrial Crops and Products*, 76, 604–615. DOI: 10.1016/j.indcrop.2015.07.073
- Cardenas, M. B., Alvarez, C. S., Morgado, Gutierrez, Monteagudo, E. B., and Suarez, M. G. (2006). Toxicological evaluation of an infusion of *Bidens pilosa*. *Pharmacologyonline*, 3: 428-434. Retrieved from <https://pharmacologyonline.silae.it/files/archives/2006/vol3/039.Boffill2.pdf>
- Choi, H. J., Lee, W. S., Hwang, S. J., Lee, I. J., Shin, D. H., Kim, H. Y., & Kim, K. U. (2000). Changes in chemical compositions of green tea (*Camellia sinensis* L.) under the different extraction conditions. *Korean Journal of Life Science*, 10: 202–209. Retrieved from https://www.researchgate.net/publication/285675172_Changes_in_chemical_compositions_of_green_tea_Camellia_sinensis_L_under_the_different_extraction_conditions
- Dulay, R. M., Kalaw, R., Reyes, S. P., Renato G., & Cabrera, E. C. (2014). Embryo-toxic and teratogenic effects of Philippine strain of *Lentinus tigrinus* (Tiger Sawgill Basidiomycetes) extract on Zebra fish (*Danio rerio*) embryo. *Annals of Biological Research*, 5 (6):9-14. Retrieved from <http://scholarsresearchlibrary.com/archive.html>
- Hakim, I. A., Weisgerber, U. M., Harris, R. B., Balentine, D., van-Mierlo, C. A. J., & Paetau-Robinson, I. (2000) Preparation, composition and consumption patterns of tea-based beverages in Arizona. *Nutrition Research*, 20 (12): 1715–1724. DOI: 10.1016/S0271-5317(00)00275-X
- Hayat, K., Iqbal, H., Malik, U., Bilal, U., & Mushtaq, S. (2013). Tea and Its Consumption: Benefits and Risks. *Critical Reviews in Food Science and Nutrition*, 55(7), 939–954. DOI: 10.1080/10408398.2012.678949
- IFT (Institute of Food Technologists) (1981) Sensory evaluation guide for testing food and beverage products. *Food Technology*, 35 (11): 550–559. Retrieved from <https://www.sensorysociety.org/knowledge/Pages/Sensory-Data-Publications.aspx>
- Ivanz, H., Joshua, A., Santos, K. A., Ty, M. T., Yu, A. I., Mahboob, T., Jitbanjong Tangpoong, & Veeranoot Nissapatorn. (2018). Recommended Medicinal Plants as Source of Natural Products. *Digital Chinese Medicine*, 1(2), 131–142. DOI: 10.1016/s2589-3777(19)30018-7
- Jaganyi, D., & Mdletshe, S. (2000). Kinetics of tea infusion. The effect of tea-bag material on the rate and temperature dependence of caffeine extraction from black Assam tea. *Food Chemistry*, 70: 163–165. DOI: 10.1016/S0308-8146(99)00262-9
- Jaganyi, D., & Price, R. D., (1999) Kinetics of tea infusion: The effect of the manufacturing process on the rate of extraction of caffeine. *Food Chemistry*, 64: 27–31. DOI: 10.1016/S0308-8146(98)00101-0
- Jiwei, Z. (2013). Tea flower processing method. *Guizhou Haotan Liyuan Spring Tea Company. Limited*. Retrieved from <https://patents.google.com/patent/CN103598368A/en>
- Kimmel, C., Ballard, W., Kimmel, S., Ullmann, B., & Schilling, T. (1995) Stages of embryonic development of the Zebra fish. *Developmental Dynamics*, 203, 253, -310. Retrieved from https://www.mbl.edu/zebra_fish/files/2013/03/Kimmel_stagingseries1.pdf
- Knapp, S. (2018). People and plants: The unbreakable bond. *Plants, People, Planet*, 1(1), 20–26. DOI: 10.1002/ppp3.4
- Larmond, E. (1977). Laboratory methods for sensory evaluation of food. *Research Branch, Canada Department of Agriculture*. Retrieved from <http://www.archive.org/details/laboratorymethodOOotta>
- Liang, Y., Lu, J., Zhang, L., Wu, S., & Wu, Y. (2003). Estimation of black tea quality by analysis of chemical composition and colour difference of tea infusions. *Food Chemistry*, 80: 283–290. Re-

- trieved from <http://www.paper.edu.cn/scholar/showpdf/OUT2MN3IMTz0kxeQh>
- Nadia, N. A. C., Pone, W., Kaushi, K., Krishnan, M., Garima, M., Arlette, N. T., Shubbi, M., Mbida, M., & Sahal, D., (2017). *In vitro* Antiplasmodial activity and Cytotoxicity of extracts and fractions of *Bidens pilosa*. *Asian Journal of Biomedical and Pharmaceutical Sciences*, 7 (61). Retrieved from <http://www.alliedacademies.org/abstract/in-vitro-antiplasmodial-activity-and-cytotoxicity-of-extracts-and-fractions-of-bidens-pilosa-7550.html>
- Nagel R., (2002). The embryo test with zebrefish (*Danio rerio*) a general model in ecotoxicological and toxicology. *Altex*, 19 Suppl. 1:38-48. Retrieved from <https://pdfs.semanticscholar.org/3002/c3dbed270179655685d79b512eb80e1a2458.pdf>
- Pironon, S., Ondo, I., Diazgranados, M., Allkint, R., Baquero, A. C., Camara-Leret, R., Canteiro, C. Z., Dennehy, C., Govaerts, R., Hargreaves, S., Hudson, A., Lemmens, R., Milliken, W., Nesbitt, M., Patmore, K., Schmelzer, G. H., Turner, R., van Andel, T., Ulian, T., & Antonelli, A. (2024). *The Global Distribution of Plants Used by Humans*. *Science*, 383(6680), 293–297. DOI: 10.1126/science.adg8028
- Prasanth, M. I., Sivamaruthi, B. S., Chaiyasut, C., & Tencomnao, T. (2019). A Review of the Role of Green Tea (*Camellia sinensis*) in Antiphotaging, Stress Resistance, Neuroprotection, and Autophagy. *Nutrients*, 11(2), 474–474. DOI:10.3390/nu11020474
- Sanseverino, M. T. V., Spritzer, D. T., & Schulerfaccini, L. (2001). *Manual de Teratogênese*. Porto Alegre: Ed. da UFRGS, 423-450. Retrieved from http://www.scielo.br/scielo.php?script=sci_nlinks&ref=000149&pid=S1984-8250201200030000900037&lng=en
- Singh, G., Passari, A. K., Singh, P., Leo, V. V., Subbarayan, S., Kumar, B., Singh, B. P., Lalhlenmawia, H., & Kumar, N. S. (2017). Pharmacological potential of *Bidens pilosa* L. and determination of bioactive compounds using UHPLC-QqQLIT-MS/MS and GC/MS. *BMC Complementary and Alternative Medicine*, 17(1). DOI: 10.1186/s12906-017-2000-0
- Sogan, M., & Maslang, J. A. (2017). Embryo-toxic and teratogenic property of *Trichaleurina celebica* on zebra fish (*Danio rerio*) embryos. *Saint Mary's University, Bayombong, Nueva Vizcaya, Philippines*. Unpublished Research Paper
- Taylor, L., (2015). The healing power of rainforest herb, Valdes HAL, Rego HPL (2001). *Bidens pilosa* (L.) *Revista Cub Planta Medica* 1: 28–33. Retrieved from <http://rain-tree.com/picaopreto.htm>
- Weerts, A. H., Martin, D. R., Lian, G., & Melrose, J. R. (2005). Modelling the hydration of foodstuffs. *Simulation, Modelling Practice and Theory*, 13: 119–128. DOI: 10.1016/j.simpat.2004.09.001
- Weigt, S., Huebler, N., Braunbeck, R., & Broschard, T. H. (2011). Zebra fish (*Danio rerio*) embryos as a model for testing proteratogens. *Toxicology*, 281(1-3): 25-36. DOI: 10.1016/j.tox.2011.01.004
- Xia, T., Shi, S., & Wan, X. (2006). Impact of ultrasonic-assisted extraction on the chemical and sensory quality of tea infusion. *Journal of Food Engineering*, 74: 557–560. DOI: 10.1016/j.jfoodeng.2005.03.043
- Xuan, T. D. & Khanh, T. D. (2016) Chemistry and pharmacology of *Bidens pilosa*: an overview. *In Journal of Pharmaceutical Investigation*. DOI 10.1007/s40005-016-0231-6

COMPARZA'S REMINISCENT GLORY: A REVIVAL-TRANSMISSION OF ONCE SYMBOLIC AND IDYLIC PHILIPPINE FOLK LIFE

Pedro G. Jayectin and Maria Amelie L. Jayectin
School of Advanced Studies / College of Teacher Education
Bohol Island State University
Bilar, Bohol, Philippines

ABSTRACT

This qualitative research, using the Appreciative Inquiry approach, sought to revisit and rekindle the tradition of *comparza* musicians—a popular musical group in the 19th to mid-20th century, known as *rondalla* in the countryside of Visayas and Mindanao. This study builds upon the researcher's earlier work on the languidness and deterioration of *rondalla* musicians, addressing the identified need for their revival and transmission as part of Philippine folk heritage. The study a 4D Cycle of Appreciative Inquiry as adopted from Cooperrider and Whitney (2005). A total of eight *comparza* musicians participated in the study, five of whom were involved in in-depth interviews and three in a focus group discussion. Intelligent verbatim translation and thematic analysis were applied in data processing. The findings indicated that majority of *comparza* instruments varied from that of *rondalla* in terms of materials they being made of and the purpose, however, similarities in operation and functions are somewhat identical; involvement in *comparza* provided both financial assistance and opportunities for the expression of musical passion, typically showcased in group performances during weddings, barangay programs, birthdays, and fiestas. In the 4D Cycle analysis, the musicians expressed joy in being musical players, envisioned preserving and transmitting their music to the next generation, proposed designing sustainability measures for revival, and emphasized the need for training or workshops to ensure perpetuation. Furthermore, the study highlighted the role of the local government of Bilar in sustaining *comparza* musicians through financial support and ordinances. The study reported the participation of the Municipality of Bilar as a contingent in the Province of Bohol Daygon and *Rondalla/Comparza* Competition in 2022 and 2023, wherein they won second and first runner-up, respectively. Strong sustainable government policies and programs to re-invigorate and re-introduce the almost lost cultural heritage are imperative especially to today's young generations.

Keywords: comparza, rondalla, revival, transmission, Philippine folk heritage

INTRODUCTION

The *rondalla*, a traditional string ensemble, occupies a significant place in Philippine cultural heritage. While scholars differ regarding the exact period of its introduction, some asserting it was brought by the Spaniards in the 16th century and others claiming its arrival occurred in the 18th century. However, there is general consensus that the tradition was indeed introduced during the Spanish colonial period (CCP Encyclopedia of Philippine Art, 1994). Alongside the *rondalla*, the Spaniards also introduced various European dances such as the jota, fandango, habanera, polka, pasodoble, lanciers, rigodon, and pas-a-quatro, often accompanied by the vibrant sound of plucked string instruments. Initially, the Spanish *rondalla* featured a diverse range of instruments including bandurrias, violins, guitars, flutes, cellos, basses, tambourines, castanets, and triangles (CCP Encyclopedia of Philippine Art, 1994). Over time, Filipinos adapted the *rondalla* to suit local tastes, resources, and performance contexts, reflecting what Rivadu (2004) describes as a display of indigenous ingenuity and creativity.

Oral history and traditions said that *Rondalla* was introduced in the Philippines in the 16th century while others declared it was in the 18th century. Despite different claims, one thing was clear; the Span-

iards did introduce this music to the Philippines. In Bohol the most interesting dances are *kuracha* and *kuradang* which accompaniments were done by *rondalla* (Apalisok, 1999). Besides, the native talents that produced the instruments and Filipinos deep inclination towards music encouraged the Spanish friars to give free music education (Filipino Heritage vol. 9, 1978).

According to de la Peña (2013), the *rondalla* symbolizes an idyllic aspect of Philippine folk life, akin to the *bahaykubo*, *barrio fiesta*, and other rural traditions. During the late 19th and early 20th centuries, *rondalla* ensembles were integral to both urban and rural celebrations, including town fiestas, weddings, and community gatherings. Within this tradition, the term *comparza* emerged to describe semi-professional and more skilled *rondalla* musicians who often performed in public events and private festivities. As noted, related terms such as *murza/murga* referred to street musicians, while *estudiantina* denoted student-based ensembles. In the Visayas, particularly, *comparza* became the dominant term for groups providing live music during birthdays, fiestas, and even house-to-house caroling during the Christmas season in the mid-20th century.

Modifications to the original Spanish instrumentation were significant. Juan Silos, recognized as the “Father of the Filipino Rondalla,” introduced additional instruments such as the mandola or bandolina to strengthen the lower register of the laud and octavina, resulting in a core ensemble typically composed of the bandurria (lead instrument), laud, octavina, guitar, and bass guitar (Rivadu, 2004). These adaptations not only enhanced musical range but also made the *rondalla* more accessible to Filipino communities.

The *rondallas* were extremely popular and in demand in the Philippines beginning in the earlier and middle part of the 20th century (www.likha.org/1992/rondalla.htm). It provides music during baptisms, mass celebrations, weddings, funeral and fiestas (www.kabahayangpilipino.org/site/music/rondalla). The group received funding from schools, government officials, business moguls, all of whom tried their best ensemble.

However, the popularity of these groups has waned somewhat in the late 20th century (www.wisegeek.org/what-is-a-rondalla.htm). The Philippine brand *rondalla* did experience waning and lull of activities as in other continents too like Australia (Rockwell, 2013). And *comparza* in Bohol, local version of *rondalla*, also experienced deterioration and waning based on the following: *comparza* musicians lost their value and relevance because of the proliferation of sing-along and karaokes; less and less young people were interested to *comparza* music because of touch screen music; *comparza* players mostly senior citizens were not anymore invited and performed during church and fiesta celebrations; there was less or almost nothing support given to the aging musicians from government and private individuals; and, finally, many *comparza* musicians died together with their instruments and nobody did replace them (Jayectin and Jayectin, 2015).

However in contemporary times, the tradition of *comparza* continues to thrive, despite with challenges related to cultural preservation and transmission. From 2016 onwards, one of the researchers has engaged in the collection and restoration of vintage (some from pre- WWII period), abandoned, and partially damaged *comparza* instruments, many of which have been repaired and returned to serviceable condition. This revival has sparked renewed interest among younger generations, leading to the formation of local *comparza* groups. To further understand the lived experiences, motivations, and aspirations of these musicians, the researcher, together with two collaborators, conducted in-depth interviews and focus group discussions with *comparza* players from various localities. Guided by the framework of Appreciative Inquiry, this study by the same researchers aimed to explore the positive core of *comparza* musicianship, its role in community cultural life, and the strategies for sustaining and transmitting this musical heritage to future generations.

STATEMENT OF OBJECTIVES

The main objective of this study was to explore *comparza* music in order to revisit and rekindle the artistry and legacy of *comparza* musicians, a once-popular musical group in the rural communities of Visayas and Mindanao. This research served as a continuation of the researcher’s earlier work, *The Languidness and Deterioration of Rondalla Music* (2015), which highlighted the urgent need for cultural revival initiatives. Specifically, this study sought to:

1. Differentiate between *rondalla* and *comparza* musicians in terms of materials and instrument composition.

2. Examine the lived experiences of *comparza* musicians, particularly their participation and the benefits they received during their peak years.
3. Apply Appreciative Inquiry through the 4D Cycle (Discover, Dream, Design, and Deliver) to assess the potential for revitalizing *comparza* music in contemporary contexts.

METHODOLOGY

This study employed a qualitative research design using Appreciative Inquiry, a framework that focuses on identifying and amplifying strengths rather than addressing deficits (Cooperrider & Whitney, 2005). Guided by the 4D Cycle (Discovery, Dream, Design, and Delivery), the approach examined the positive aspects of *comparza* musicians' experiences, envisioned their future, developed strategies for sustainability, and explored ways to maintain these initiatives over time. Moreover, this study is anchored on Karl Mannheim's Theory of Generations (1928), which posits that people belonging to the same generation share a social and historical location that shapes their experiences, values, and cultural expressions.

Eight *comparza* musicians participated in the study: five in semi-structured in-depth interviews and three in a focus group discussion (FGD). Participants were purposively selected based on their significant experience in the tradition as musicians both currently and in the past. Each of the participants was represented by the capital letter P in the later discussions of the study. The sample size aligned with Interpretative Phenomenological Analysis (IPA) recommendations, prioritizing depth of insight over breadth (Smith & Osborn, 2008). Data were gathered through face-to-face sessions at convenient times and venues for the participants, using a validated interview guide. Conversations were conducted mainly in Visayan or Boholano to encourage open and authentic sharing. Each interaction was audio-recorded with consent, transcribed through intelligent verbatim translation, and organized according to the 4D Cycle framework.

Lastly, credibility was enhanced through member checking, allowing participants to review and confirm transcripts. Ethical protocols, including informed consent, confidentiality, and anonymity, were strictly observed. Data were securely stored in a password-protected device accessible only to the researchers.

RESULTS AND DISCUSSION

This section presents the findings of the study on the exploration of the *comparza* music, aiming to revisit and rekindle *comparza* musicians. In particular, the results identified the difference between *comparza* and *rondalla* music to highlight their distinction in terms of materials and instrument composition. Additionally, the narratives of the participants revealed two main categories: first are their past experiences and benefits as *comparza* musicians, and secondly, the 4D cycle analysis that are subcategorized into four: Discover, Dream, Design, and Deliver.

I. Difference Between *Comparza* and *Rondalla* Music

Table 1. Comparison of Materials Used in *Comparza* and *Rondalla* Instruments

Instrument	<i>Comparza</i>	<i>Rondalla</i>
<i>Bandurria</i>	Banjo-bandurria with brass/metal drum; 12 strings	Bandurria with wooden body (e.g., <i>nangka</i> , <i>palotsina</i>); 14 strings
<i>Laud/Octavina</i>	Banjo-laud with brass/metal drum; 5 strings	Octavina with wooden body; 14 strings
<i>Banjo-Tenor</i>	Brass/metal drum with slender, longer neck; 4 strings	No direct <i>rondalla</i> equivalent (closest is <i>viola</i>)
<i>Case Covers</i>	Formerly goat or other animal skin; now X-ray films	No known use of membrane or skin covers; uses wooden soundboard design
<i>Base</i>	Bajo de Unas- Smaller and Portable with 4 metal strings	Bajo de Arco- bigger, bulky and difficult to be carried; with 4 nylon strings

The primary distinction between *comparza* and *rondalla* instruments in terms of materials lies in the use of brass or metal for the casings or drums of *comparza* instruments, compared to the wooden bodies of *rondalla* instruments, often made from *nangka*, *palotsina*, and similar materials. For example, the *comparza*'s banjo-bandurria (12 strings) corresponds to the *rondalla*'s wooden bandurria (14 strings), while the banjo-laúd (5 strings) parallels the *rondalla*'s *octavina* (14 strings), both tuned similarly but an octave lower. The *comparza* also features the unique banjo-tenor, made with a brass drum and a longer, more slender neck, carrying only four strings tuned like a viola. This instrument has no direct counterpart in the *rondalla*. Historically, *comparza* instruments used goat skin or other animal hides as case covers, which were prone to softening during moist or rainy conditions, dulling the sound. Musicians restored crispness by heating the covers over fire. Today, X-ray films are used instead, offering greater durability and resistance to weather conditions. Additionally, this comparison highlights how uniquely crafted *comparza* instruments are, especially with innovations like the banjo-tenor and adaptive uses of X-ray film for sound enhancements. In contrast, *rondalla* instruments follow a more standardized construction focused on wooden resonance and traditional string arrangements, without the use of covers or hybrid instrument types like the banjo-tenor.

Moreover, the modern Filipino *rondalla* is typically composed of *bandurria*(s), *octavina*(s), guitar (s), and bajo de arco. These four core instruments are already sufficient to perform and produce harmonious and expressive music. Although additional instruments such as violins, violas, and cello can be included to enrich the sound, they are not essential for the standard *rondalla* performance. The combination of these main string instruments gives the *rondalla* its distinct warm and resonant tone. On the other hand, the *comparza* features a different set of core instruments. Its ensemble usually consists of banjo-bandurria, banjo-laúd, banjo-tenor (with bodies or “cases” made of metal or brass), guitar, and *bajo de uñas*. Similar to the *rondalla*, optional string instruments like violins or ukuleles may be added to enhance the musical quality. However, the five principal instruments are already capable of producing vibrant and well-blended renditions. The use of banjo-type instruments with metallic or brass bodies gives the *comparza* a brighter, more percussive tone compared to the mellow sound of the *rondalla*.

Furthermore, this research hypothesizes that *comparza* instruments reflect the resilience and inventiveness of Filipinos in bringing music to the countryside. Several factors contribute to this assertion.

First, *comparza* instruments, which are typically made with brass or metal casings, are more durable compared to the wooden casings of *rondalla* instruments. This sturdiness allows them to better withstand frequent use and varying environmental conditions common in rural areas.

Second, their portability is a significant advantage. For instance, the *bajo de uñas* can be easily transported from one house to another, unlike the bajo de arco, which is large, heavy, and cumbersome to move. This mobility supports the communal nature of Filipino musical gatherings, where instruments are often shared between households.

Third, the materials used for *comparza* strings add to their practicality. All strings are made of metal, which can be easily sourced from local town markets. In contrast, some *rondalla* instruments, particularly the bajo de arco, requires specialized nylon strings that must be purchased from music stores or supermarkets, making maintenance more challenging in remote areas.

Lastly, the overall ease of transporting *comparza* instruments makes them highly suitable for rural communities, where musical groups often perform in various locations. This portability ensures that music can reach even the most distant barangays, reinforcing the cultural value of these instruments in fostering social connection and celebration.

Table 2. Rondalla Instruments



Table 3. Comparza Instruments From Right To Left:



1	2	3	4	5
1. Bajo de Onas (with 4 metal strings) (manufactured by Bilbao Family in 1941)				equivalent to Rondalla's Bajo de Arco (with 4 nylon strings)
2. Banjo Bandurria (with 12 strings) (made around before WWII-owned by researcher's Lolo)				equivalent to Rondalla's Bandurria (with 14 strings)
3. Banjo Tenor (made around Pre -WWII and owned by researcher's kin)				No Rondalla equivalent, tuned as Viola
4. Banjo Laud (with 5 strings) (Made around 1950's by the Rabuya's)				Octavina is Rondalla's equivalent
5. Acoustic Guitar- both found in Comparza				and Rondalla

Both *rondalla* and *comparza* instruments and their equivalents are tuned in the same notes from the first strings to the last ones. *Banjo bandurria* and *bandurria* are tuned from 1st to the 6th strings as follows: Sol, Re, La, Mi, Ti(Si) and Fa#. The *banjo laud* and *octavina* are of the same tunes as *bandurria* and *banjo bandurria* but an octave lower.

II. Experiences and Benefits as Comparza Musicians

Experiences of Comparza Musicians: Time Spent and Age of Participation

The findings revealed a diverse range of experiences among *comparza* musicians in terms of their length of involvement and age when they joined the group. The strings of both Some members began their journey with the *comparza* at a relatively young age. For example, P1 shared, "*I was with the group for around three years and I am now 14 years old,*" indicating that the participant joined at around the age of 11. Another member P2 expressed, "*Four years already, and I am now 11,*" showing an even earlier start in musical engagement. These accounts highlight how *comparza* music serves as an avenue for early musical exposure and skills development among youth.

Meanwhile, other members joined in their adulthood and have sustained their involvement for several years. P3 reflected, "*We started comparza music in 2019... I started joining when I was 21 years old,*" showing a five-year commitment to the group. The inclusion of younger adults suggests that *comparza* music also attracts individuals in their more mature years, potentially contributing to cultural continuity.

Significantly, the *comparza* also included veteran musicians who have been part of the tradition for decades. One senior member proudly shared P4, "*I am with comparza for a long time and I am 64 years old now,*" while P5 affirmed, "*At 60, I am still active with the group today.*" Their continued participation not only demonstrates the enduring personal value of musical performance but also reflects the role of elder musicians as cultural bearers and mentors for younger generations.

These findings showed that *comparza* music is an intergenerational practice, engaging members as young as 7–11 years old and sustaining participation well into senior years. This diversity of ages fosters a dynamic exchange of skills, stories, and traditions, ensuring the vitality and continuity of the *comparza* in the community.

Benefits Comparza Musicians' Involvement

The study underscored that the involvement of musicians in the *comparza* is driven by both cultural heritage and practical needs. P1 shared, *"My parents are comparza musicians, so I just followed their footsteps,"* showing that for some, participation is a continuation of family tradition and cultural identity.

However, most responses pointed to financial motivations. P 2 and the other 3 participants expressed that being part of the *comparza* helped them meet personal and family needs. One explained that it provided for their school allowance, while another emphasized that it served as a source of income for daily needs and to buy rice. Similarly, others shared that it helped support the family. These responses highlighted the *comparza* not only as a cultural expression but also as an important livelihood opportunity for its members.

From this, the study showed that the *comparza* benefited its musicians by preserving family traditions, offering a source of income, and helping sustain the educational and basic needs of its members.

Table 4. The Ages of Comparza Players and their Reasons in Joining the Group

Participants (P)	Age in Joining Comparza	Reasons in Joining Comparza
P1	<i>"I was with the group for around three years and I am now 14 years old,"</i>	<i>"My parents are comparza musicians, so I just followed their footsteps,"</i>
P2	<i>"Four years already, and I am now 11,"</i>	it provided for his school allowance.
P3	<i>"We started comparza music in 2019... I started joining when I was 21 years old."</i>	served as a source of income for daily needs and to buy rice.
P4	<i>"I am with comparza for a long time and I am 64 years old now,"</i>	it helped support the family
P5	<i>"At 60, I am still active with the group today."</i>	an important livelihood opportunity

III. 4D Cycle Analysis of Appreciative Inquiry

In the **Discovery** phase, participants conveyed a strong sense of fulfillment in their role as performers, emphasizing that their *comparza* music serves as a source of joy and entertainment, particularly for tourists and audiences during various occasions. One participant remarked that they were *"happy to discover that through our comparza music, we were able to give joy and entertainment to others, especially tourists and in our performances in different occasions,"* highlighting the intrinsic satisfaction derived from sharing their craft.

In the **Dream** phase, the group articulated a collective vision centered on the preservation and transmission of *comparza* music to succeeding generations. This aspiration was encapsulated in one musician's hope that *comparza "will continue and others may continue our music,"* reflecting a broader commitment to safeguarding cultural continuity.

In the **Design** stage, participants identified a core best practice: the consistent rendering and dissemination of their preserved musical heritage. They expressed that such practices should be *"sustained, preserved, and transmitted,"* underscoring their intent to ensure the long-term vitality of *comparza* traditions.

Lastly, in the **Deliver** phase, participants emphasized the necessity of tangible sustainability strategies, including effective leadership, structured training, and adequate resource allocation. As one musician stated, *"somebody should lead and teach others in playing comparza music... I personally trained and taught my children how to play comparza's musical instruments so that they will continue this precious musical heritage."* This reflects their recognition that mentorship, skill transfer, and regular capacity-building activities are essential for the perpetuation and revival of the tradition.

Table 5. The 4D Cycle Analysis of Appreciative Inquiry

4D Cycle	P1	P2	P3
Discovery Question: "What did you find out and discover being in Comparza?"	<i>" We were happy to discover that through our comparza music, we're able to give joy and entertainment others, especially tourists with our renditions & performances in different occasions, "</i>	Affirmed what P1 has said.	Agreed to P1 statement.

4D Cycle	P1	P2	P3
Dream Question: “What is your dream in the future about Comparza?”	He affirmed what P3 has said.	He agreed P3’s declaration.	<i>“ We will continue to perform and others may continue our music,”</i>
Design Question: “What did you find best in your comparza music? And how to sustain it?”	He affirmed to P2’s answer.	Our music is joy and we wished that such should be <i>sustained, preserved, and transmitted.</i>	He supported P2’s answer.
Deliver Question: What will be the necessary actions to sustain and transmit comparza to the next generations?	<i>“Effective leadership, structured training, and adequate resource allocation are needed.”</i>	<i>“Somebody should lead and teach others in playing comparza music”</i>	<i>“I personally trained and taught my children how to play comparza’s musical instruments so that they will continue this precious musical heritage.”</i>

IV. Local Government Initiatives in Preserving and Promoting *Comparza* Music in Bilar

The Local Government Unit (LGU) of Bilar played a pivotal role in sustaining the tradition of *comparza* music by institutionalizing measures that ensured its preservation and promotion. Through Municipal Ordinance No. 129, series of 2024, Section 7.2, paragraph C, the LGU explicitly mandated the organization of a local *rondalla* (*comparza*) in collaboration with the private sector, coupled with the scheduling of performances across various towns and cities both within and beyond the region.

This policy demonstrated a deliberate commitment not only to revive and preserve the cultural heritage of *comparza* music but also to facilitate its intergenerational transmission. Furthermore, the LGU’s active participation in the Province of Bohol Daygon and *Comparza/Rondalla* Competition, garnering Second Runner-Up in 2022 and First Runner-Up in 2023, reflected its dedication to showcasing local talent and elevating the municipality’s cultural presence at the provincial level. These efforts underscored the LGU’s role as both a custodian and promoter of Bilar’s musical heritage, ensuring that *comparza* music remained a vibrant and enduring component of the town’s cultural identity.

CONCLUSION

This study revisited and rekindled the legacy of *comparza* music, a vibrant cultural tradition in the rural communities of Visayas and Mindanao, by examining the lived experiences of its musicians and the factors sustaining its practice. Findings revealed the differences between *comparza* and *rondalla* music in terms of materials and instrument composition although functions and operations are somewhat identical. In addition, it also indicated that participation in *comparza* not only served as a source of financial support but also provided an avenue for artistic expression, particularly through performances in community celebrations such as weddings, barangay programs, birthdays, and fiestas.

Using the Appreciative Inquiry 4D Cycle (Discover, Dream, Design, and Deliver), the study illuminated the musicians’ joy in performance, their vision for preserving and transmitting the tradition to future generations, and their proposed measures for ensuring sustainability, including training and workshops. The role of the local government of Bilar emerged as a crucial element in this preservation, demonstrated through policy support, collaborative initiatives with the private sector, and active participation in regional competitions, where the municipality garnered notable achievements. Above all strong sustainable government policies and programs to re-introduce and re-invigorate the almost lost *comparza* cultural heritage are imperative especially to today’s young generations.

REFERENCES

- Anon. (1994). CCP Encyclopaedia of Philippine Art Vol. VI Philippine Music. Vera-Reyes, Inc. National Bookstore: Mandaluyong City.
- Anon. (2007). Cuerdas: Rhythms of Community Life (Exhibition of the 2nd International Rondalla Festival).
- Anon. Many Strings, One Nation: The Philippine Rondalla Festival. Retrieved July 27, 2015 from www.choose-philippine.com/do/history.../philippine-rondalla-festival/.
- Apalisok, S. (1999). Bohol Without Tears Land of Country's Most Battered People. Surigao City: Surigao BB Press.
- Dadap, M. (2004). The Virtuoso Bandurria. Dumaguete City: Unitown Publishing House.
- de la Paz, C. (2004). Cuerdas: Music, Lives, Memories (The Exhibit of 1st International Rondalla Festival).
- De la Pena, V. Philippine Rondalla History- Strings of Unity. Retrieved July 27, 2015 from www.stringsofunity.com/rondalla-history.html.
- Filipino Heritage vol. 9, 1978.
- Jayectin, P. and Jayectin, M.A. (2015) Unpublished Study. Languidness and Deterioration of Rondalla: BISU Bilar, Bohol.
- LGU Bilar Municipal Ordinance No. 129, series of 2024.
- Revadu, R. (2004). Music Education Materials and Methods. Mandaluyong City: National Bookstore.
- Rockell, K. (January 2013). The Philippine Rondalla: A Gift of Musical Heritage in Migrant Context. IJAPS, Vol. 9, No.1.
- Vitto, L. & dela Peña, L. (n.d.). A Brief History of the Philippine Rondalla. Retrieved from <https://stringsofunity.wordpress.com/philippine-rondalla/>.
- www.likha.org/1992/rondalla.htm
- www.kabahayangpilipino.org/site/music/rondalla
- www.wisegeek.org/what-is-a-rondalla.htm

MGA KWENTO SA PINAGMULAN NG PANGALAN NG MGA BAYAN SA IKATLONG DISTRICTO NG BOHOL

“FOLKTALES OF THE ORIGIN OF TOWNS’ NAME OF THE THIRD DISTRICT OF BOHOL”

Stanley O. Rasonabe, CpE, LPT, PhD-Fil
Chairperson, General Education Department
Bohol Island State University Calape Campus
Bohol, Philippines

ABSTRACT

This study primarily aims to examine the folk narratives and myths behind the origins of town names in the Third District of Bohol, Philippines. The research focused on towns such as Alicia, Anda, Batuan, Bilar, Candijay, Carmen, Dimiao, Duero, Garcia Hernandez, Guindulman, Jagua, Lila, Loay, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones, and Valencia. It sought to assess how well the residents understand the etymology of their respective town names and the level of awareness of the origin of the said placename. A combination of qualitative and quantitative methods was applied, using a custom-designed questionnaire evaluated through Cronbach’s Alpha Test, which indicated high reliability. The findings revealed that town names often stemmed from factors such as the moral values of early settlers, natural landscapes, notable local figures, foreign influences, livelihoods, and indigenous plants, prominent figures, beliefs in religion, and a unique situation of the locality. It is recommended that a compilation of folktales be compiled to preserve this knowledge and the widest dissemination is encouraged.

INTRODUKSIYON

Ang Bohol ay hitik sa mga kuwentong-bayan na sumasalamín sa buhay ng komunidad—mga pagtitipon, ritwal, at iba pang gawaing panlipunan na nagpapakita ng natatanging kultura ng lalawigan. Ang pangangalap ng mga kuwentong-bayan at iba pang anyo ng panitikan ay nagpapalalim ng ating pag-unawa sa panitikang nagpapahayag ng ating kultural na pagkakakilanlan (Lauder, et al., 2015). Ito ay mahalagang bahagi ng kulturang Boholano.

Ang likas na kapaligiran ng Bohol, kasama ang mga mamamayang naninirahan dito at ang lipunan at kulturang kanilang nilinang, ay malalaking salik na nakaimpluwensya sa anyo at nilalaman ng mga kuwentong-bayan. Ang mga salik na ito ay nakaapekto batay sa yugto ng kanilang pamumuhay at sa antas ng pag-unlad ng kanilang kultura (Light, 2014).

Sa kabuuan, ang mga Boholano ay mayroong likas na pagkahilig sa pagkukuwento ng mga buhay, bagay, pamumuhay, lipunan, pamahalaan, at iba’t ibang karanasang nauugnay sa iba’t ibang uri ng damdamin na karaniwang ipinapakita sa kanilang pagpapahalaga sa kanilang lugar. Manipestasyon ito ng realidad ng buhay at maging ng kaluwalhatian ng diwa, damdamin at personal na karanasan ng isang tao (Rose-Redwood, et al., 2010).

Ang kahalagahan ng mga kuwentong-bayan sa isang partikular na lugar ay sumasalamín sa kabuuang kultura ng nasabing komunidad (Herman, 1999), at ang kulturang ito ay nagpapakita ng pamumuhay ng mga taong naninirahan doon (Ainiala, 2016). Subalit, sa paglipas ng panahon, kapansin-pansing humihina na ang interes ng mga tao sa mga kuwentong-bayan (Higman & Hudson, 2009). Isa sa mga posibleng dahilan nito ay ang labis na pagkahumaling ng mga tao sa makabagong teknolohiya at iba’t ibang aspeto ng modernong lipunan (Aldrin, 2016). Dahil sa mabilis na takbo ng panahon, nagiging mahirap na para sa marami na balikan at unawain ang ating pinagmulan bilang mga indibidwal (Jepson, 2011). Dahil dito, nababahala ang mga mananaliksik sapagkat unti-unti nang nawawala ang ating pagkakakilanlan

bilang mga Boholano. Nawawala na rin ang pagpapahalaga sa mga kuwentong-bayan na siyang nagsisilbing repleksyon ng ating kultura at pamumuhay (Cowell, 2004).

Ayon kay Gudde at Bright (2010), sa kanyang aklat na pinamagatang California Place Names: The Origin and Etymology of Current Geographical Names,

The study of place names has proved of greatest importance for the investigation of the primeval periods, which are thought lessly called "prehistoric" because their history cannot be studied on the basis of written documents.

Isinasaad ng pahayag na ang pag-aaral sa mga pangalan ng lugar ay nagpapatunay sa napakalaking kahalagahan sa imbestigasyon sa mga nakalipas na mga kapanahunan dahil ang mga noong unang panahon ay wala pang mga naipalimbag na mga aklat. Tanging ang pangalan lamang ng lugar ang nadala hanggang sa kasalukuyan kay ito ay pwedeng mapagkukunan ng impormasyon.

Ayon kay Smith (1957), sa kanyang aklat na pinamagatang Review Place-Names and Geography: Review,

To all who travel about the countryside with the glimmer of curiosity, and to all who read, or even glance at, maps, place names must always be of great, and often of tantalizing, interest.

Binanggit sa pahayag na ang mga taong may interes sa pagtuklas ng kasaysayan, ang pangalan at mapa ng lugar ay pwede maging batayan sa kanilang pananaliksik.

Ayon kay Stewart (1954), sa kanyang aklat na pinamagatang A Classification of Place Names,

In writings of place names various categories of names are generally assumed, e.g., descriptive names, etc. This present study attempts to set forth the matter systematically, and thus to present, with an attempt at consistency and completeness, the classes into which place names may be divided according to their manner of origin, which is in general the matter of primary interest and importance to the onomatologist.

Nagsaad ito na ang mga pangalan ng lugar ay pwedeng uriin sa maraming kategorya at isa na nito ay sa paraang paglalarawan.

Ayon kay Fitzpatrick (1960), sa kanyang aklat na pinamagatang Nebraska Place-Names,

A study of Nebraska place names reveals six general classes, as follows: (1) A class containing personal names such as the names of early settlers, railroad officials, prominent men, etc.; (2) Names derived from the local features or characteristics, i.e., names descriptive of the localities; (3) Names transferred from foreign places; (4) Indian Names; (5) Original or coined names; (6) Miscellaneous names.

Natukoy dito na may anim na klasipikasyon ang pagpapangalan ng lugar. Una ay ang mga pangalan ng lugar ay mula sa ngalan ng tao. Ikalawa, ito ay mula sa lokal na katangian. Ikatlo ay mula sa pangalan ng lugar ng ibang bansa. Ikaapat ay mula sa pangalang Indiyano, Ikalima ay orihinal na pangalan at huli ay samut-saring pangalan. Ang mga ito ay nais tuklasin ng mananaliksik.

Ayon kina Pukui et. al. (1976), sa kanilang aklat na pinamagatang Place Names of Hawaii,

Hawaiian names, in contrast, usually have understandable meanings, and the stories illustrating many of the place names are well known and appreciated.

Sa aklat ng mga mananaliksik, natukoy nila na ang pangalan ng mga lugar ay may kaukulang kahulugan at ang mga kwento rito ay alam ng maraming tao sa nasabing lugar at kanilang pinapahalagahan.

Ayon kay Mills (2011), sa kanyang aklat na pinamagatang A Dictionary of British Place-Names,

The place names of British isles are as much part of our cultural heritage as the various languages, historical events and landscapes from which they spring, and almost every place has an older original meaning behind its modern form.

Sa pahayag, iginiit na ang pangalan ng lugar ay bahagi ng isang pamanang historikal dahil ang ibang-ibang lengguwahe, kasaysayan, ay anyong lupa kung saan ito nagmula ay may matatandang orihinal na kahulugan sa likod ng pagkabuo nito.

Ayon kina Higman at Hudson (2009), sa kanilang aklat na pinamagatang Jamaican Place Names,

Jamaican place names provide clues to Jamaica's past landscapes and its social and economic history.

Binanggit naman sa pahayag na ang pangalan ng mga lugar ay nagbibigay ng pahiwatig mula sa anyong lupa at pati na rin sa soyal at ekonomik na aspeto.

Ayon kay Darby (1957), Review: Place-Names and Geography: Review,

It was not until 1922 that the study of place names was put upon a firm basis in England with the foundation of the English Place Name Society. The great principle governing the work of the Society has been a recognition of the danger of attempting to explain the meaning of a name without knowing its earliest form and the sequence of changes that have taken in its spelling. It is true that many names turn out to mean what they appear to mean.

Hindi talaga maiwawaksi na ang pag-aaral sa pangalan ng lugar ay nagiging basehan sa pagtuklas ng mga kahulugan. Hindi ito maisasagawa kung hindi alamin ang lumang porma at ang pagbabago sa baybay ng pangalan ng lugar. Tunay na karamihan ng mga pangalang ito ay may kahulugan batay sa kung ano ang literal na kahulugan ng salita. Saad din niya na,

There are other aspects to the study of place names for they constitute one of the most important sources for the history. They concern the history of society so they concern the history of landscape, for it was places that were being named, and the characteristics of those places are often reflected in their names.

Dagdag pa ng awtor na may maraming aspeto sa pag-aaral ng lugar dahil ito ay maaring mapagkunan ng impormasyon tungkol sa kasaysayan ng lugar. Ang katangian ng anyong lupa ng nasabing lugar ay kadalasang makikita sa pangalan nito. Natukoy na ang pangalan ng lugar at heograpikal na ekspresyon ng proseso ng kultura na dinamiko.

It was found out that the study of place names indicates that there are a geographic expression of cultural processes that are still dynamic. Naming a place is a process for the people to tame the space; conversely, a place name also becomes a medium for the space to regulate the people. For the people, every place name represents the collective life and memory of their group; for the nation, place names may become a means for the government's constructing various national symbols.

Ang pagpapangalan ng lugar ay isang proseso upang mapanatili at ma kontrol ang mga tao rito. Ayon sa mga tao, ang pangalan ng lugar ay nagapapahiwatig ng kolektibong paraan ng pamumuhay at alaala ng pangkat.

Bilang panapos, ang mananaliksik ay may interes sa pagkalap ng mga kuwento hinggil sa pinagmulan ng pangalan ng mga bayan sa Ikatlong Distrito ng Bohol. Layunin ng pag-aaral na siyasatin ang mga kuwentong-bayan upang matuklasan ang kasaysayan ng mga ninuno at maunawaan ang pinaniniwalaang pinagmulan ng mga katawagan ng bawat bayan. Nilalayon ng pananaliksik na mapanatili ang mga kuwentong ito upang maipasa sa susunod na mga henerasyon at maibahagi sa mga mag-aaral sa Bohol bilang bahagi ng pagpapalawak ng kanilang pambansang identidad at kamalayang pangkultura.

Makakatulong din ang pananaliksik na ito sa mga guro sa pagtuturo, sapagkat maaari itong magsilbing mabisang kasangkapan upang pasiglahin ang interes at pakikilahok ng mga mag-aaral gamit ang mga kuwentong nag-ugat sa kanilang sariling komunidad. Higit pa rito, ito ay magiging mahalagang ambag sa larangan ng panitikang panlalawigan at maaaring gamiting sanggunian sa pagtuturo ng mga lokal na kuwentong-bayan. Sa ganitong paraan, higit pang mapapalalim ang pagpapahalaga sa sariling panitikan na mahalaga sa paghubog ng makabayang kamalayan ng bawat mamamayan.

ANG SULIRANIN

Paglalahad ng Suliranin

Ang pangunahing layunin ng pag-aaral na ito ay ang mangalap at suriin ang antas ng pagpapahalaga at kaalaman ng mga mamamayan hinggil sa mga kuwentong tumatalakay sa pinagmulan ng pangalan ng mga bayan sa Ikatlong Distrito ng Bohol. Sisikapin ng mananaliksik na masagot ang mga sumusunod na katanungan:

1. Ano ang pinagmulan ng pangalan ng mga bayan sa Ikatlong Distrito ng Bohol?
2. Ano ang antas ng kaalaman ng mga respondente ukol sa pinagmulan ng pangalan ng kanilang bayan?
3. Saan hinango ang pangalan ng mga bayan sa Ikatlong Distrito ng Bohol?

A. Metodolohiya

Disenyo ng Pananaliksik

Ginagamitan ang pag-aaral na ito ng kwalitatibo at kwantitatibong pamamaraan. Ginamitan din ang pananaliksik ng pamaraang deskriptibo o palarawan mula sa mga nakalap na mga kwentong-bayan ng Ikatlong Distrito ng Bohol. Bumuo ang mananaliksik ng talatanungan upang makuha ang impormasyon tungkol sa bayan nila. Ginagamit din ng mananaliksik ang mga kwentong nakalap mula sa mga pag-aaral ng mga guro noong 1990s sa mga bayan ng Alicia, Anda, Batuan, Bilar, Candijay, Carmen, Dimiao, Duero, Garcia Hernandez, Guindulman, Jagna, Lila, Loay, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones, and Valencia.. Ang mga nakuhang datos ay nilikom para sa kompilasyon at dokumentasyon. Ang mga natitipong kwentong-bayan ang siyang ginagamit upang maisasagawa ang kritikal na pagsusuri sa mga datos ng pag-aaral at bubuo ng isang kwentong bayan na kakatawan sa isang bayan ng Bohol.

Paraan ng Pananaliksik

Ang pag-aaral ay ginagamitan ng talatanungan at ibinigay sa mga respondente sa mga nabanggit na mga bayan. Ginamit din ang mga kwentong nakalap ay mula sa mga aklat na naipalimbag ng mga guro at Pandistritong Tagamasid sa taong 1990 na nakalagay ngayon ang mga aklat na ito sa Bohol Provincial Library. At upang mapatunayan ang katumpakan ng mga kwentong ito ay nagbibigay ng talatanungan sa mga respondente ng mga nabanggit na bayan. Pagkatapos ay sinuri ang mga nakalap na datos.

Respondente ng Pananaliksik

Ang mga repondente ng pananaliksik na ito ay mga piling mag-aaral at guro ng piling pampublikong pansekondaryang paaralan ng Alicia, Anda, Batuan, Bilar, Candijay, Carmen, Dimiao, Duero, Garcia Hernandez, Guindulman, Jagna, Lila, Loay, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones, and Valencia. Pumili ang mananaliksik ng 30 respondente sa bawat piling bayan ng Bohol sa pamamagitan ng “snowball sampling” kung saan nagtakda ang mananaliksik ng mga kriterya sa pagpili ng magiging kalahok. Sa kabataang may edad 20 pababa ay may 190 respondente, sa mga may edad 21-40 ay may 190 respondente, at sa may edad 41 pataas ay may 190 respondente sa kabuuang 570 respondente ang pananaliksik na ito.

Lugar ng Pananaliksik

Isinasagawa ng mananaliksik ang pag-aaral na ito sa labinsiyam na bayan ng Ikatlong Distrito ng Bohol. Ang mga bayang ito ay ang Alicia, Anda, Batuan, Bilar, Candijay, Carmen, Dimiao, Duero, Garcia Hernandez, Guindulman, Jagna, Lila, Loay, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones, and Valencia.

Instrumento ng Pananaliksik

Ginamit ng mananaliksik ang sariling gawang talatanungan na tutukoy sa kaalaman ng mga residente tungkol sa pinagmulan ng pangalan ng kanilang bayan. Ito ay dumaan muna sa Chron Bach Alpha test at may high reliability na resulta. Isinagawa rin ang pilot testing bago ito ipinatupad sa aktwal sa distribusyon ng talatanungan. Ito ay ibinigay sa mga residente ng Alicia, Anda, Batuan, Bilar, Candijay, Carmen, Dimiao, Duero, Garcia Hernandez, Guindulman, Jagna, Lila, Loay, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones, and Valencia. Ang mananaliksik ay gumamit rin ng mapagkakatiwalaang mga aklat kaya unang nagtungo sa Bohol Provincial Library upang maghanap ng iba’t ibang impormasyon tungkol sa pinagmulan ng pangalan ng mga piling bayan ng Bohol.

Paraan ng Pangangalap ng Datos

Pumunta ang mananaliksik sa mga bayan ng Alicia, Anda, Batuan, Bilar, Candijay, Carmen, Dimiao, Duero, Garcia Hernandez, Guindulman, Jagna, Lila, Loay, Loboc, Mabini, Pilar, Sevilla, Sierra Bullones, and Valencia upang maibigay ang sariling gawang talatanungan at makalikom ang mga kinailangang datos.

Etikal na Konsiderasyon

Humingi na pahintulot ang mananaliksik sa Campus Research Director ng BISU Calape at pinagtibay ito ng Campus Director. Humingi rin ng pahintulot sa Alkalde ng bawat bayan ng Ikatlong Distrito

ng Bohol. Humingi rin ng pahintulot mula sa mga Respondente bago isinagawa ang pagkakalap ng mga datos.

Pagsusuring Estatistikal

Ang pag-aaral na ito ay gumamit ng talatanungan upang masukat at masuri ang kinakailangang datos. Ginamit din ang pormula sa pagkuha ng porsyento at pagrarrango.

$$P=f/n \times 100$$

Kung saan:

P = porsyento

n = dalas

100 = konstant

B. Mga Natuklasan

RESULTA AT DISKUSYON

I. Alicia

Taon ng pagkatatag ng lungsod ng Alicia: Enero 18, 1950

Ang lungsod ng Alicia na dating tinawag na “Batuanan” ay isa sa mga matatandang lungsod ng lalawigan ng Bohol. Ito ay naitatag ilang taon pagkatapos ng pag-aalsa ni Dagohoy (1744-1829). Ang lungsod na ito ay naitatag sa panahon ng mga Espanyol noong Hunyo 1860 sa bisa ng nilagdaang batas ng Gobernador Heneral Livariz. Ang sentro ng gobyerno ay sa Lungsoda-an, isa sa mga sitio ng barrio Putlongcam. Ang salitang Putlongcam ay mula sa mga pangalan ng mga sitio na Puti, Lungsoda-an, at Cambaja.

Mayroong dalawang bersiyon kung bakit naging “Batuanan” ang pangalan ng lugar. Ang unang bersiyon ay nagsalaysay na ang nasabing lugar ay ginamit bilang “Batuganan” na nangangahulugang taguan ng mga mandirigma ni Dagohoy mula sa mga pirata at mga Espanyol. Mula noon, ang lugar ay tinawag nang Batuanan mula sa salitang “batuganan”. Ang ikalawang bersiyon ay ang mga punong “Batuan” na may bungang hugis kamatis ay saganang tumubo sa nasabing lugar. Ito ay nag-udyok ng mga Espanyol na pangalanan itong Batuanan noong panahong mayroon silang operasyong militar.

Maraming taon ang lumipas, nangarap ang mga mamamayan na maging ganap na lungsod ang barrio Batuanan kaya sa pangunguna ni Pedro Huiso ay may panukala na maging nagsasariling lungsod ang Batuanan. Humingi siya ng tulong sa kanyang kaibigan na si Gobernador Jacinto Borja upang hihingi din ng tulong sa dating Presidente na si Elpidio Quirino na gawing lungsod ang Batuanan. Noong bumisita si Presidente Quirino sa Dumaguete noong Setyembre 16, 1949 ay nagpalabas ng Executive Order bilang 265 lumikha ng Batuanan bilang ganap na bayan at tawagin itong “Alicia” bilang papugay sa asawa nitong si Doña Alicia Syquia Quirino.

Ang Alicia ay nagsimulang naging ganap na nagsasariling lungsod noong Enero 18, 1950 ay ang naunang naitalagang Mayor ay si Pedro Huiso, Bise Mayor na si Anastacio Curit, mga Kagawad na sina Perpetua Talili, Gaudencio Gumup-as, Eladio Iyoy, Buenaventura Asas, Benito Licayan, at Arsenio Ayuban.

II. Anda

Taon ng pagkatatag ng lungsod ng Anda: Marso 12, 1875

Ang lungsod ng Anda ay matatagpuan sa maliit na tangway sa dulong bahagi ng silangan ng Bohol, mga 100 kilometro mula sa Tagbilaran. Ang dalampasigan ay may iregular na kontorno. Ang ibang bahagi ay mabato, mabuhangin, at maputik na tinubuan ng mga makakapal na bakhawan. Ang mga kapatagan at kabundukan ay tinubuan ng mga ibat-ibang uri ng punongkahoy at mga halaman. Mayroon ding mga ligaw na hayop tulad ng baboy, unggoy, usa, ahas, ibon, at iba pa. Marami sa mga ito ay wala na ngunit may iilan pa rin na makikita pa sa lugar.

Ang tangway ng Anda ay may maraming kuweba na makikita sa dalampasigan at sa bundok. Ang mga arkeologo ay nakahukay ng mga lumang kagamitan, mga buto ng tao at hayop na nanirahan ilang

libong taon na ang nakalipas. Ang mga naninirahan sa mga kuwebang ay pinaniniwalaang namuhay mga 2000 taon B.C. na ang nakalipas. Sila ay tinawag na mga Aetas o Agta sa lokal na lengguwahe batay sa nakalimbag sa kasaysayan at mula sa mga kwento ng mga ninuno at sa mga awiting bayan.

Noong unang panahon ng sibilisasyon hanggang sa mga unang dekada ng ika-labinsiyam na dekada, ang lugar na ito ay tinawag na “Quinali”, isang barrio sa katabing lungsod ng Guindulman. Ang pangalang ito ay hinango mula sa nabuong lupa na buhangin, bato, at mga korales na naging patong-patong at ito ay nabuo dahil sa walng humpay na hampas ng mga alon mula noon paman. May mga nandarayuhan mula sa karatig lugar ang permanente nang namuhay sa lugar na ito. Karamihan sa kanila ay nanirahan malapit sa dalampasigan upang mamuhay sa pangingisda at pagsasaka.

Ang mga paring Espanyol ay nakadestino sa Guindulman. Ang mga nandarayuhang misyonero ay nagpalaganap ng relihiyong Kristiyano sa mga katutubo na nanirahan dito. Isang pansamantalang kumbento at simbahan ang ipinatayo sa barrio na ito, ang “Quinali” na nangangahulugang isang bisita. May mga pari na regular nang bumisita rito tuwing Linggo upang pangunahan ang misa. Ang mga tao sa gabay ng mga paring Espanyol ay pumili ni Senyor Santo Niño bilang patron ng kanilang komunidad.

Nang dumami ang mga tao rito at naging progresibo ang lugar, humiling sila na maging independen- teng pamahalaang sibil at parokya mula sa Guindulman. May malakas na representasyon para sa pag- likha ng bagong lungsod at bagong parokya ay nakarating sa matataas na awtoridad. Sa wakas, noong Marso 12, 1875 ang bagong gobyerno sibil ay naisakatuparan mula sa Guindulman sa bisa ng direktiba mula sa Gobernador Heneral ng Pilipinas. May mga mahalagang dokumentong naipahatid sa Spanish Cortes ng Espanya upang mapagtibay ito. Itong barrio na Quinali ay pinalitan ng salitang “Anda” na nangangahulugang ang lugar ay hindi lamang sa lawak nito kundi sa literal na pagpapakahulugan ay lumalakad at tungo sa kasaganaan at kaunlaran.

III. Batuan

Taon ng pagkatatag ng lungsod ng Batuan: Oktubre 31, 1903

Ang Batuan ay dating bahagi ng lungsod ng Bilar. Naging ganap itong lungsod noong Oktubre 31, 1903 sa pagsisikap ng mga prominenting pamilya sa lugar na ito. Nang makarating ang balitang ito sa mga opisyal ng Bilar, ang mga nagpasimuno ng panukalang ito ay ikinulong nang walang dahilan. Nang sila ay nakalaya, ang mga naturang nagpasimuno ng pagsasarili ay mas nagkaroon pa ng motibasyon upang ipagpapatuloy ang kanilang adhikain. At kahit sa likod ng malakas na pagtutol ng mga opisyal ng Bilar pati na ang kura ng simbahan, ang bayan ng Batuan ay nalikha sa bisa ng Act No. 968 ng lumang konstitusyon. Ang orihinal na barangay ay ang Lindugon, Cambacay, Cantigdas, Janlud, at Rosariohan.

Sa unang mga taon, ang sentro ng pamahalaan ay sa Lindugon na ngayon ay pinangalanang Poblacion Vieja, mga 2 kilometro mula sa daang nasyunal. Sa taong 1911, ang munisipyo na siyang tanggapan ng may kapangyarihan ay inilipat sa Sitio Tinagacan sa kadahilanang ito ay madaling mapun- tahan ng mas nakararami. At sumunod naman dito ang paglipat ng simbahan.

Ang salitang Batuan ay galing sa isang uri ng halaman na tumutubo sa lugar na ito. Sa kabalint-unaan, ang uri ng kahoy na ito ay bihira nang makita sa bayang ito sa kasalukuyan. Sa panahon ng pananakop ng mga Hapones, ang Batuan ang naging kanlungan ng mga bakwit mula sa Cebu ay Leyte. Dito rin sa lungsod na ito naganap ang pagsasanib ng mga girilya sa Batuan Central Elementary School noong Hunyo 29, 1942.

IV. Bilar

Taon ng pagkatatag ng lungsod ng Bilar: 1870

Pagkatapos ng makasaysayang Blood Compact nina Miguel Lopez de Legazpi, ang Espanyol na par- ing manlalakbay at Datu Sikatuna, ang pinuno ng Bool at grupo ng mga Espanyol ay inatasan ng go- byerno ng Espanya na manggalugad at magtatag ng mga lungsod at parokya sa ibang bahagi ng isla. Pagkatapos maitatag ang lungsod ng Baclayon, Tagbilaran, at Loboc, ilan sa mga paring Espanyol at kawal ay nagpunta sa gitnang bahagi ng Bohol.

Sa kanilang paglalakbay sila ay dumaan ng isang pamayanan na may grupo ng mga kababaihan na nag-aani ng palay. Ang iba ay nagpapatuyo ng palay. Sa Espanyol na lengguwahe, sila ay nagtanong kung ano ang pangalan ng lugar na iyon. Sa pag-aakalang ang mga Espanyol ay nagtatanong kung ano ang kanilang ginagawa, ang pangkat ng mga kababaihan ay pahiyang sumagot sa kanilang dayalek, “Nagabinlad”. Binlad ay kaagad na itinala sa aklat ng mga manlalakbay at ginamit ang pangalang ito sa

kanilang pakikipagkomunikasyon. Mula sa salitang Binlad, nagiging Bilar ito sa pagdaan ng mahabang panahon.

V. Candijay

Taon ng pagkatatag ng lungsod ng Candijay: Nobyembre 29, 1854

Noong unang panahon, batay sa alamat ang lugar na ito ay walang nagsanga-sangang daan at tanging mga punongkahoy at mga malubog ang makikita rito. May isang taong nanirahan dito na pinangalanang Dihay. Ang kanyang kasipagan ay kamangha-mangha dahil siya lamang ang nagsasaka sa napakalawak na lupaing ito. Nagtatanim siya ng palay, mais, niyog, at iba pang mga halamang-ugat. Nag-alaga rin siya ng maraming kalabaw, baka, sa iba pang uri ng hayop sa loob ng malawak na lupaing ito. Ang kanyang pinakamalapit na kapitbahay ay ilang kilometro pa ang layo sa kanyang lugar. Tinawag ng mga tao ang lugar na ito na “Kang Dihay” na nangangahulugang ang lugar na ito ay pagmamay-ari ni Dihay. Sa panahong ito, ang kanyang mga kalahi ay nag-aasawa at nagkakaroon na ng mga anak at apo at laong lumaki ang kanilang angkan. Kalaunan, ang lugar na ito at tinatawag na Candijay.

VI. Carmen

Taon ng pagkatatag ng lungsod ng Carmen: Marso 01, 1869

Ang Carmen ay matatagpuan sa gitnang bahagi ng Bohol at tinawag na “Heart of Bohol”. Lahat ng daang pangnasyunal ay nagtatagpo sa lungsod na ito. Dito matatagpuan ang Chocolate Hills.

Ang kasalukuyang pangalan ng lungsod ng Carmen ay hango mula sa Berhin del Carmen ang patron ng relihiyong Romano Katoliko. Ang dating pangalan ng lungsod ng Carmen ay Ymbaya na hinango mula sa pangalan ng isang sapa na nasa gitnang bahagi ng naturang komunidad. Ang Ymbaya ay dating bahagi ng Bilar at ang pangalang Carmen ay ibinigay nang maging nagsasariling lungsod na ito.

Ang mga dating sitio ay naging barangay ng Carmen. Ito ang Alegria, Bicao, Buenos Aires, Calatrava, Can-oling, Colonia, El Salvador, Guadalupe, Katipunan, La Ezperanza, La Libertad, La Paz, La Salvacion, La Victoria, Matin-ao, Montehermoso, Montesuerte, Montevideo, Nueva Fuerza, Nuevavida, San Vicente, Vallehermoso, Villa Aurora, Villafuerte, Villarcayo, Poblacion Norte, at Poblacion Sur.

VII. Dimiao

Taon ng pagkatatag ng lungsod ng Dimiao: Enero 22, 1769

May kwentong ang lugar na ito ay minsan ay pinamumunuan ng isang taong may pangalang Mayaw at ang kanyang magandang asawang si Ida. Ang ilang Espanyol ay inanyayahang mamahinga at maghapunan sa bahay nila. Nang magtanong ang mga estranghero kung ano ang pangalan ng lider ng lugar, nasabi itong “Ida-Mayaw” kaya kalaunan sa pagdaan ng panahon ay naging Dimiao ito.

Ang Dimiao ay may lupaing sakop na 7,713 ektarya. Ang Lila at Valencia ay dating sakop pa ng lungsod na ito ngunit nagsasariling lungsod dahil sa pagtaas ng populasyon. Noong 1867, ang Valencia ay nahiwalay sa Dimiao noong 1867 at ang Lila ay nahiwalay bilang nagsasariling lungsod noong Enero 1, 1915.

VIII. Duero

Taon ng pagkatatag ng lungsod ng Duero: 1862

Sa panahon ng pananakop ng mga Espanyol nang ang Kristiyanismo ay ipinakilala ng isang paring Espanyol, si Fr. Lorenzo Fernandez ay nagmungkahi na magtayo ng simbahan sa lungsod. Ang mga mamamayan ay sumang-ayon sa mungkahi ng pari pero hindi pa sila sigurado kung saan ito itatayo. May grupo ng mga tao na nagmungkahi na ito ay itayo sa Nawi, isang barrio na isang kilometro sa kanluran ng kasalukuyang simbahan samantalang may isang grupo mula sa Langkis, isang kilometro mula sa silangan, iginiit nila na dapat doon sa kanilang lugar magpatayo ng simbahan. Ang dalawang grupo ay hindi nagkasundo at ang pari ay nagalit kaya ipinatayo ito sa gitnang bahagi ng dalawang barrio. At dahil sa katigasan ng dalawang pangkat ng mga tao, tinawag niya itong “DOGUERO” o matigas ang ulo kaya tinawag niya ang lugar bilang Doguero.

Lumipas ang maraming taon, isang maunawain at mahagbaging pari ang nadestino sa lungsod. Napansin niya na ang mga tao ay mabait, matiyaga at matulungin. Palagi silang nag-aalay ng pera at iba pang bagay. Dahil sa ganitong katangian, siya ay lubhang natuwa at may isang pagkakataon sa kanyang mensahe sa misa, binago niya ang pangalan ng lungsod sa pamamagitan ng pagkaltas ng dalawang letra

na “OG” mula sa orihinal upang maging DUERO. Sa kanyang paliwanag, ito ay ipinangalan mula sa tahimik na ilog sa Espanya, marahil sa kanyang lugar na kapanganakan. Ang pangalan ay naging kaaya-ayang pakinggan at kahulugan at ito ay nananatili hanggang ngayon.

IX. Garcia Hernandez

Taon ng pagkatatag ng lungsod ng Garcia Hernandez: Marso 11, 1858

Ang Garcia-Hernandez ang kasalukuyang opisyal na pangalan ng lungsod na ito. Itinatag ito noong Marso 11, 1858 at hinango ang pangalang Garcia Hernandez mula sa apilyedo ng mga pari sa mga bayan ng Guindulman at Loay na siyang nagpasimuno sa pagtatag ng lungsod na ito. Ito ay dating bahagi ng lungsod ng Jagna simula sa bandang Punta Curda o kilala sa tawag na Balitbiton kung saan may mataas na bahagi ng batong nakaharap sa dagat na siyang nagsisilbing pagitan ng Jagna at Valencia. Ang lugar na ito ay labimpitong kilometro mula sa sentro ng bayan.

X. Guindulman

Taon ng pagkatatag ng lungsod ng Guindulman: 1622

Marami ang nagkakainteres kung saan nanggaling ang pangalan ng lungsod ng Guindulman. Ito ay mula sa salitang “guiduloman” na nangangahulugang isang lugar na ang dilim ng gabi ay nakahabol sa mga biyahero. May isang alamat na mayroon lang dalawang organisadong lungsod sa bahaging ito ng Bohol: ang Jagna at Batuanan na ngayon ay Alicia na mula naman sa pangalan ng asawa ng dating Presidente Quirino. Ang mga biyahero mula sa mga lungsod na ito mula sa alinman sa mga lungsod ay kadalasang dito na matutulog sa lugar na ito. Kaya tinawag itong “guiduloman” at kalaunan naging Guindulman. Ang pangalan ay tumpak dahil dati ang lugar na ito ay dating natatabunan ng isang makapal na kagubatan.

Mahirap makuha ang eksaktong petsa ng pagkatatag ng lungsod na ito dahil ang mga opisyal na mga dokumento ay nasunog sa panahon ng giyera. Walang buhay na taong makapagsabi sa at nakatatanda sa petsa ng pagkatatag nito. Pero, masasabing ang bayan ng Guindulman ay naitatag at naorganisa na sa wala pa ang pag-aalsa ni Tamblot noong 1622. Ang Guindulman ay tinatayang naitatag na nang mahigit sa 300 taon na nakalipas.

XI. Jagna

Taon ng pagkatatag ng lungsod ng Jagna: Setyembre 29, 1631

Ang kasalukuyang pangalan ng lungsod na ito ay Jagna. Noon una, ang pangalang Jagna ay binaybay ng “Hagna”. Ang simula ng salitang Hagna ay mula sa sumunod na alamat.

Ang unang mga katutubo sa lugar ay mula sa mga nandarayuhan mula sa lungsod ng Loboc. Galing sila sa “bilos” dala ang kanilang mga kayamanan at pagmamay-ari, pati na ang imahe ni San Miguel. Nanirahan sila sa lambak at ginawang palayan ang mga matubig na mga lupain malapit sa kanilang tinirahan. Nagtayo sila ng simbahan at inilagay ang imahe ni San Miguel. Nagdasal sila sa kanilang patron.

Sa lambak na ito ay may maliit na ilog na may malalim na bukana. Tinawag ito ng nandarayuhan na “Bojo” na nangangahulugang malalim na tubig dagat. Ang Bojo ay kadalasang naglalaman ng maraming mga isdang “tigue” na may mga panahon na ang mga isdang ito ay naglalaro sa ibabaw ng tubig. Ang bukana ng ilog ay nagmumukhang parang kumukulong mantika ng niyog sa isang kawali. Kaya tinawag itong pangyayaring ito ng mga tao na “nihagna” o malapit nang mabuo ang mantika. Mula sa ekspresyon na “Nihagna na” kaya kalaunan ay nabuo ang pangalang Jagna.

XII. Lila

Taon ng pagkatatag ng lungsod ng Lila: Enero 01, 1915

Mula noon hanggang sa taong 1868, ang lungsod ng Lila ay hindi nalaman ang pangalan ng lugar na ito. Ito ay hindi kilalang sitio na katabi ng Dimiao. Kung paano nagkapangalan ang lugar at kung paano ito umunlad ay maaaring maipaliwanag sa mga pangyayari ng nakaraan- ang alamat na pasalindila ng mga ninuno mula sa henerasyon noon hanggang ngayon.

Isang araw habang naglalakbay ang mga misyonerong Agustino sa kanlurang bahagi ng lungsod ng Dimiao, dumating sila sa isang lugar na may malawak na palayan sa makipot na patag malapit sa dalampasigan. Habang sila’y papalayo, sila’y namangha sa tanawing nakita na mga halaman sa ibabaw ng tubig na siyang tumubo sa isang tubigan. Hindi nila napigilan ang pagkamangha rito at napasigaw ng,

“Las flores son Lila muy hermosisimas!”. Paulit-ulit nilang binanggit ang salitang “Lila” na tumutukoy sa bulaklak na kulay lila. Mula noon, ang lugar na ito ay pinangalanang Lila.

XII. Loay

Taon ng pagkatatag ng lungsod ng Loay: 1740

Ang Loay ay isa sa mga pinakamaliit na lungsod ng Bohol na mayroon lamang na humigit kumulang 50 kilometro kuwadrado. Ang lungsod na ito ay matatagpuan sa bukana ng Ilog ng Loboc. Ang lugar na ito ay nahahati sa ibaba at itaas na bahagi. Ang ibabang bahagi ay kadalasang tinatawag na Canipa-an dahil sa maraming naglipanang tanim na nipa at ang itaas na bahagi ay Ibabao dahil ito ay matatagpuan sa isang talampas. Ang salitang Loay ay mula sa salitang “OWAY”-isang uri ng tanim na sagana sa lugar na ito noong unang panahon. Kalaunan, ito ay ipinangalan na sa bayan.

XIV. Loboc

Taon ng pagkatatag ng lungsod ng Loboc: 1595

Loboc, ang “lungsod ng musika”, ay bayan na matatagpuan sa gitnang bahagi sa lalawigan ng Bohol. Ito ay dalawampu’t apat na kilometro mula sa Lungsod ng Tagbilaran at limang kilometro mula sa dalampasigan. Ito ay matatagpuan sa isang lambak na nahati sa isang liko-likong ilog sa kaparehong pangalan. Ang ilog na ito na siyang pinagkukunan ng enerhiya ay nakagawa ng isang libo at dalawang daang kilowatts sa hydroelectric, ay may lagusan patungong dagat ng Loay.

Sa taong 1595, ang mga paring Heswita na sina Torres Y Sanches ay dumating sa lalawigan ng Bohol upang ipalaganap ang banal na ebanghelyo. Dumating sila sa Baclayon at mula doon pumunta sila sa Loboc kung saan sila nagtayo ng Kristiyanong pamayanan dahil ang lungsod ay may malaking populasyon.

Ayon sa mananalaysay na si Fr. Horacio de la Costa, ang Loboc ay naitatag ni Fr. Juan de Torres, isang Heswitang misyonero noong 1602. Ang kristiyanong pamayanan na unang naitatag ng mga misyonero ay nangungunang parokya na siyang inialay kay San Pedro, ang Apostol. Mula noon ang simbahan at lumaki hindi lang ang gusali kundi pati na ang mga taong nasasakupan. Kalaunan ang Espanyol na manlulupig ay natotong magkaroon ng isang gobyerno at ang lungsod ay isinilang.

Kung paano ang lungsod ay nagkaroon ng pangalan, ito ay popular na nalalaman na nang dumating ang mga Heswitang misyonerong pari sa lambak na ito, pumunta sila sa isang bahay na katabi ng ilog kung saan ang may-ari ay nagbayo ng palay. Tinanong siya kung ano ang pangalan ng lugar. Hindi ito naintindihan ang tanong ng pari at nag-akalang ang itinanong ay kung ano ang kanyang ginagawa. Ang sagot ng may-ari ay “ga loboc” na nangangahulugang nagbayo ng palay. Kaya naging LOBOC ang naging pangalan ng lugar.

XV. Mabini

Taon ng pagkatatag ng lungsod ng Mabini: Hulyo 23, 1904

Ang lungsod ng Mabini na naitatag noong Hulyo 23, 1904 sa tulong ni Pedro Samson at Gobernador Anacito Clarin, ang kaklase at katabi ni Apolinario Mabini sa Ateneo de Manila. Ang pangalan ng lungsod ay hinango mula sa Dakilang Lumpo at ang Utak ng Rebolusyon ng Pilipinas na si Apolinario Mabini. Isa siya sa mga bayani ng bansa at lumad na taga Tanauan, Batangas. Isa siyang abogado at sinulat niya ang Sampung Dekalogo. Ang sentro ng gobyerno ng municipalidad ay matatagpuan sa Sitio Libas na ngayon ay bahagi ng Poblacion 2. Ang sentro ng lungsod ay ililipat sana sa Quilim na kalaunan ay tinawag na Batuan at sa kasalukuyan ito ay tinatawag na Lungsodaan.

Ang mga sumusunod na barrio ay bumubuo ng municipalidad ng Mabini. Ito ay ang Abaca, Aguipto, Banlas, Bulawan, Cabidian, Cawayanan, Lundsodaan, Minol, Poblacion 1, Poblacion 2, Tambo, Cabulao, San Jose, at Batuanan. Ang ilang barrio ay napabilang sa Candijay at ang ilan ay sa Ubay. Noong 1949, ang Batuanan ay hindi na bahagi ng Mabini at kalaunan ay naging municipalidad ng Alicia, Bohol.

XVI. Pilar

Taon ng pagkatatag ng lungsod ng Pilar: Disyembre 26, 1960

Ang Pilar ay dating tinawag na barrio Banlasan na dating sentro ng Sierra Bullones. Ang palaging pagbaha mula sa Ilog Wahig ang nagtulak sa mga residente na lumipat patungong barrio Candagas at pinangalanan itong Poblacion. Ang Banlasan ay pinalitan ng pangalang Lungsod Daan na nangangahulugang matandang lungsod.

Noong Disyembre 29, 1961, ang Lungsod Daan ay naging nagsasariling lungsod at pinalitan ng pangalang Pilar bilang parangal sa kanilang patron- ang Virgen del Pilar. May kabuuang 16 na barrio mula sa mga municipalidad ng Candijay, Guindulman, Sierra Bullones, Sierra Bullones, at Ubay ang kinuha upang mabuo ang municipalidad sa bisa ng Executive Order No. 480 na nilagdaan ng Pangulong Carlos P. Garcia.

XVII. Sevilla

Taon ng pagkatatag ng lungsod ng Sevilla: Oktubre 22, 1872

Sa taong 1854, may ilang paring Espanyol ang nakapunta sa ibat ibang bahagi ng Bohol upang maghanap ng isang magandang lugar upang makapagpatayo ng simbahan. Ang paghahanap ay nagtagay ng ilang araw hanggang nakapagdesisyon silang magtayo ng unang simbahan sa kanlurang bahagi ng Bacayon. Si Padre P. De Santa Barbara ang namuno sa pagpatayo nito.

Ang mga natitirang mga paring Espanyol ay muling naghanap ng ibang lugar na katitirikan ng simbahan. Sila ay tumawid ng ilang mga sapa at mga liko-likong daan. Nakarating sila sa isang talon, ang napakagandang Tontonan. Namangha sila sa ganda nito kaya ginalugad nila ang malaking bahagi ng lugar na ito.

Sa taong 1602, Si Padre Simon De Jesus ay nagpatayo ng ikalawang simbahan sa Loboc. Ang populasyon ng lungsod na ito noon ay 5,000. Ang lupaing sakop nito ay malaki. Ito ay nagsimula sa Kalintaan mula sa Hilaga, sa Hagbuaya sa Catigbian, hanggang sa kabundukan ng Omhon ng Valencia at mula sa Maglini ng Sikatuna hanggang sa mga dalampasigan ng Kanluran. Ang pagpatayo ng Simbahan ay ginawa ng mga tao. Ang bawat tao ay dapat magdala ng tig-iisang batong hugis kahon sa bawat Linggo tuwing dadalo sila ng misa. Ang hindi susunod sa patakarang iyon ay nangangahulugang may matinding parusang haharapin. Ang pagpapagawa ng simbahan ay halos umabot sa isang daang taon. Ang mga manggagawa nito ay sapilitan at libre.

Ang Sevilla ay malaking barrio ng Loboc. May isang matapang na lider na si Desiderio Belhay na sikat sa pangalang Eljo ang siyang pinakaunang cabeza de barangay. Siya ang taga tsek ng mga batong hinulma na dala ng mga parokyano tuwing dadalo sila sa Linggohang obligasyon. Siya rin ang namahala sa mga taong nag-aalay ng isang araw na serbisyo sa bawat linggo sa pagpapatayo ng simbahan.

Ilang taon ang lumipas, ang layo ng Sevilla tungo sa Poblacion, na siyang sentro ng kalakalan ay naging balakid ng mga taga-barrio. Nahirapan din sila sa pagpunta nito tuwing Linggo bilang isang obligasyon. Napaisip sila na magtayo ng simbahan sa kanilang barrio para sa kanilang kaginhawaan. Kaya ang mga lider at matatanda ay nagtitipon upang pag-usapan iyon. At napagdesisyunan nila na magtayo sila ng simbahan sa lugar nila na may basbas ng kanilang padre kura. Kalaunan, sa taong 1855, ang paghingi ng pahintulot sa pagpapatayo ng simbahan ay naisakatuparan sa Sitio Bentig na may sukat na sampu at walong dipa.

Ang paring kura ng Loboc na si Padre Bernardo Echevaria ay natandaan ang Seville, Spain nang ang Sevilla ay nagpatayo ng sarili nilang simbahan. Natandaan niya ang Mahal na Guadalupe ang patron ng Seville, Spain. Napagtanto niya na dapat kapareho ang patron ng Sevilla sa patron ng Seville, Spain kaya ang Mahal na Guadalupe na ang nagiging patron ng Sevilla na may kapistahan tuwing Disyembre 12.

Noong Oktubre 22, 1872 ay nagiging ganap na lungsod ang Sevilla at ang pangalan ng lungsod na ito ay hinango sa isang lungsod ng Seville ng Espanya.

XVIII. Sierra Bullones

Taon ng pagkatatag ng lungsod ng Sierra Bullones: Enero 05, 1863

Noong unang panahon, ang sentro ng gobyerno ng lungsod na ito ay sa Pilar. Si Tan Tome Buslon, ang mananalapi ng municipalidad ay nagpanukala ng isang resolusyon nag nagnanais na ilipat ang lokal na pamahalaan sa Candagas. Ang dalawang pangunahing dahilan ay ang mga sumusunod: una, ang karamihan ng mga empleyado sa munisipyo ay taga Candagas. Ikalawa, walang tulay ang nagdurugtong ng Ilog Wahig at sa panahon ng tag-ulan bumabaha ang ilog na ito kaya hindi makatawid ang tagahatid ng mga sulat na kadalasang nakasakay lamang ng isang kabayo. Kaya ang mga mensahe at impormasyon ay hindi agad makarating dito. Ang panukala ay may sumalungat at mayroon din namang sumang-ayon ngunit ito ay napagtibay sa likod ng mga pagtuligsa rito ng iba.

Ang Candagas na ang naging sentro ng lokal na pamahalaan at ang naiwang lugar ay bumaba sa pagiging barrio na lamang at ito ay pinangalanang “Lungsod Daan”. Maraming taon ang nakalipas at sa

kapanahunan ng Pangulong Carlos P. Garcia, naglabas siya ng Executive Order at ginawang lungsod ang Lungsod Daan at naging lungsod ng Pilar ito.

Ang mga kwentong bayan ay nagsasabing ang salitang “Sierra Bullones” ay mula sa salitang Espanyol na “Sierra” na nangangahulugang bundok at “Bullones” ay nangangahulugang bullion ng ginto. Ito ay totoo dahil ang mga bundok dito ay may mayamang depositong ginto.

May mga taong nagsabing sa panahon ng kolonisasyon ng mga Espanyol, ang mga mayayamang Espanyol ay naglilibing ng mga bullion ng mga kayamanang ginto sa pagitan ng barangay Dusita at Cantaub. Ito ay magandang balita sa mga naghahanap ng kayamanang ginto.

May isang bersiyon naman ng kwento na ang salitang “Bullones” ay mula sa salitang Espanyol na nangangahulugang “fog”. Ito ay nangangahulugang ang Sierra Bullones ay isang bundok ng “Fog”. Ito ay isang teorya marahil ang Sierra Bullones ay isang bulubundukin at may makapal na kagubatan noong unang panahon.

Ang isang bersiyon naman ayon sa matatanda na mula sa kanyang kapanganakan, ang lugar na ito ay tinutubuan ng halamang tinatawag na “buyon”. Ang mga Espanyol ay binigkas itong “bullion” na nangangahulugang ginto. Kaya ang ideya na ay nagsabing ang lugar na ito ay sagana ng buyon, isang halamang nakagamot.

Isang interpretasyon mula sa mga nakalap na impormasyon na ang salitang “Sierra” ay nangangahulugang “series” sa salitang Ingles at “Bullones” ay nangangahulugang kuweba. Kaya ang “Sierra Bullones” ay nangangahulugang Serye ng mga Kuweba.

XIX. Valencia

Taon ng pagkatatag ng lungsod ng Valencia: Oktubre 27, 1869

Sa mga huling bahagi ng pananakop ng mga Espanyol, ang mga opisyal ng barrio Panangatan, Canmanico, at Cutcutan na siyang bahagi pa ng lungsod ng Dimiao, ay humiling sa dating gobernador Francisco De la Torre na lumikha ng panibagong komunidad na bumubuo ng tatlong nabanggit na mga barrio sa silangan na hindi na kabilang sa pamamahala ng lungsod at sa simbahan ng Dimiao. Ang mungkahi ng pagsasarili ng mga ito ay nakabatay sa bilang ng mga taong namumuhay na umabot na sa higit 1,200 at ang mga taong ito ay kailangan pang maglakbay nang malayo upang matugunan ang kanilang obligasyon sa pamahalaan at simbahan lalo na tuwing Linggo na may misa at sa mga banal na araw.

Noong Oktubre 27, 1869, apat na taon mula noong nagpapatada ng kanilang petisyon at kahit na sa likod ng maraming pagtuligsa sa kura ng Dimiao, Ang Sibil Superyor na Gobernador ay naglabas ng kasulatan na nagtatag ng bagong nagsasariling lungsod na bumubuo ng barrio Panangatan, Canmanico, at Cutcutan. Nang ang isang paring Espanyol ay namahala bilang unang kura sa simbahan dito ay gumawa siya ng pagbisita sa kabundukang bahagi ng lugar na ito. Natuklasan niya na ang pormasyon ng lupain ay katulad ng kanyang lugar na kapanganakan na ang Valencia, Spain. Siya ay lubhang napamahal sa lugar at nang bumalik siya sa lugar na ito, nagpatawag siya ng isang malawakang pagpupulong at nagmungkahi na ang barrio Panangatan ay tatawaging Valencia. Ang kanyang mungkahi ay masayang sinang-ayunan ng mga tao dito kaya ang pangalang Valencia ay nadala sa kasalukuyang panahon.

**Talahanayan 1. Pangkalahatang Antas ng Kaalaman ng mga Residente
Ukol sa Pinagmulan ng Pangalan ng Kanilang Bayan**

Antas ng Kaalaman	Dalas	Bahag- dan	Ranggo
5 (Alam na alam ang detalye ng kwento)	10	1.75	5
4 (Alam ang iilang detalye ng kwento)	158	27.72	2
3 (May Alam sa kwento pero kaunti lamang)	228	40.00	1
2 (Hindi sigurado sa kwento)	92	16.14	3
1 (Walang Alam sa Kwento)	82	14.39	4
Kabuuan	570	100.00	
Composite Mean	2.80		May Alam sa Kwento pero kaunti lamang.

Mahihinuha sa Talahanayan 1 na karamihan sa mga residente ay may alam sa kwento ng pinagmulan ng pangalan sa kanilang bayan ngunit hindi kabuuang kwento ang kanilang alam.

Talahanayan 2. Saan Hinango ang Pangalan ng mga Bayan ng Ikatlong Distrito sa Lalawigan ng Bohol

<i>Saan Hinango ang Pangalan ng Bayan</i>	<i>Mga Bayan</i>
Hanapbuhay	Bilar at Loboc
Heograpiya	Anda at Sierra Bullones
Lugar ng Ibang Bansa	Sevilla at Valencia
Halaman	Batuan, Lila at Loay
Katangian ng Tao	Duero
Bayani ng Bansa	Mabini
Pangalan ng Prominenteng Tao	Alicia, Candijay, Dimiao, at Garcia Hernandez
Santo/Paniniwal	Carmen at Pilar
Sitwasyon/Pangyayari	Guindulman at Jagna

Makikita sa Talahanayan 2 na hinango ang pangalan ng kanilang bayan mula hanapbuhay, heograpiya ng lugar, pangalan ng lugar sa ibang bansa, halaman, katangian ng tao, at pangalan ng bayani ng bansa, pangalan ng prominenteng tao sa lugar, Santo/paniniwala, at sitwasyon o pangyayari.

MGA NATUKLASAN

Natuklasan sa pananaliksik na ito na ang dalawang bayan sa Ikatlong Distrito ng Bohol ang hinago sa hanapbuhay at ito ang bayan ng Bilat at Loboc-. Ang bayan ng Anda at Sierra Bullones naman ay hinango mula sa heograpiya ng lugar. Samantala, ang bayan ng Sevilla at Valencia ay hinago mula sa pangalan ng lugar sa ibang bansa. Ang bayan ng Batuan, Lila at Loay naman ay hinango mula sa mga halaman na sagana na tumubo sa lugar. Ang bayan ng Duero ay hinango mula sa katangian ng tao. Ang Mabini ay hango mula sa pangalan ng bayani ng Pilipinas. Hinango naman sa mga pangalan ng mga prominenteng tao sa lugar ang bayan ng Alicia, Candijay, Dimiao, at Garcia Hernandez. Samantala ang bayan ng Carmen at Pilar ay hango sa mga Santo ng relihiyong Romano Katoliko. At ang panghuli ay ang bayan ng Guindulman at Jagna na hango sa isang sitwasyon o pangyayari sa lugar.

Natuklasan din na may mababang kaalaman ang mga residente sa pinagmulan ng pangalan ng kanilang bayan.

C. Konklusyon

Ang mga lokal na kuwentong-bayan ay may mahalagang gampanin sa ating buhay bilang isang sam-bayanan, at ito ay nagsisilbing:

a. Magpapakita ng koneksiyon ng tao sa kalikasan.

Malaki ang naitutulong ng mga kuwentong-bayan sa mga residente sa pagpapatibay ng kanilang ugnayan sa kalikasang pinagmumulan ng kanilang kabuhayan. Ang paniniwala sa mga diwata, engkanto, at iba pang nilalang ay nagpapakita ng paggalang sa kalikasan, na siyang nag-uudyok sa kanila na pangalagaan ito laban sa anumang uri ng pang-aabuso.

b. Pagproteksiyon sa mga yamang tubig.

Ang tubig ay isa sa pinakamahahalagang pangangailangan ng bawat komunidad. Ang mga punongkahoy ay may mahalagang papel sa pagkakaroon ng masaganang suplay ng tubig sa isang lugar, kaya't nararapat lamang na iwasan ang pagpuputol ng mga ito upang mapanatili ang balanse sa kalikasan.

c. Pagpapahalaga sa mga bagay-bagay na pumapalibot sa tao.

Ang mga bagay sa paligid ng tao ay may malaking papel sa paghubog ng kanyang pagkatao, lalo na sa aspeto ng kanyang mga paniniwala. Halimbawa, ang mga kahanga-hangang anyo ng mga bundok ay maaaring magbigay-linaw sa mga kuwentong nag-ugat dito at sa ugnayan nito sa mga tao.

d. Tagapagdala ng lokal na kasaysayan at paniniwala

Ang mga kuwentong-bayan ay nagsisilbing salamin ng ating lokal na kasaysayan at pananam-palataya. Sa pamamagitan ng mga ito, mas nauunawaan at pinahahalagahan ng isang tao ang kanyang pinagmulan at ang kanyang kinabibilangang lahi. Ang mga salaysay ukol sa pinagmulan ng pangalan ng

kanilang lugar ay nagbibigay ng mas malalim na pag-unawa sa ating kasaysayan, kahit na ito'y hindi lag-ing itinuturing na ganap na totoo.

Dahil dito, may mahalagang papel ang mga magulang, guro, mga tagapamahala, at mga opisyal ng pamahalaan sa pagtanim ng pagpapahalaga sa mga kuwentong-bayan, oral na tradisyon, at panitikang pasalita. Layunin nitong mapanatili at maipasa ang mga kaalamang ito sa mga susunod na salinlahi.

REKOMENDASYON

Batay sa mga natuklasan at konklusyon ng pananaliksik, ang sumusunod na mga rekomendasyon ay binuo ng mananaliksik:

Una, imungkahi ang paglalathala ng isang aklat o babasahing tumatalakay sa pinagmulan ng pangalan ng bawat bayan upang mapalaganap ang kaalaman ng mga mamamayan ukol dito.

Ikalawa, ipatupad ng Department of Education (DepEd) ang mandato ng kontekstwalisasyon at lokal-isasyon sa pagtuturo, sa pamamagitan ng pagsasama ng mga kuwentong-bayan sa mga aralin. Makakatulong ito sa mga mag-aaral upang mas maunawaan ang kanilang pinagmulan at mahikayat silang palalahan ang pamana ng kanilang kultura.

Ikatlo, magsagawa ng taunang festival sa bawat bayan na magtatampok sa kasaysayan ng pagkatatag o pinagmulan ng kanilang lugar, bilang paraan ng pagpapalawak ng kaalaman at pagmamalaki sa lokal na kasaysayan.

Ikaapat, gamitin ang teknolohiya upang mapanatili at mapreserba ang oral na tradisyon:

Pagbuo ng webserver at database na pangangalagaan ng lokal na pamahalaan (LGU). Ito ay magsisilbing taguan ng mga kuwentong-bayan at iba pang oral na panitikan, na maaaring ma-access ng lahat sa tatlong antas: administrator, contributor, at rehistradong o hindi rehistradong user.

Paglikha ng Facebook page, Instagram account, o iba pang social media platforms upang mas mapalaganap ang mga lokal na kwento. Dahil sa mataas na paggamit ng social media sa bansa, lalo na ng kabataan, ito ay epektibong paraan upang mapalawak ang kamalayan hinggil sa ating panitikang-bayan.

Ikalima, gamitin ang pangalan ng lugar bilang tatak (branding) upang pasiglahin ang turismo at kala-kalan sa komunidad.

Ikaanim, gamitin ang pangalan ng bayan bilang inspirasyon upang buhayin at paunlarin ang mga tradisyonal na kabuhayan ng mga residente sa tulong ng pamahalaan.

Ikapito, ituring ang pangalan ng bayan bilang batayan sa pagbubuo ng mga patakaran at programa ng pamahalaan na nakatuon sa pag-unlad ng lokal na komunidad.

LISTAHAN NG MGA SANGGUNIAN

- Ainiala, T. (2016). Names in society. In *The Oxford handbook of names and naming*.
Aldrin, E. (2016). Names and identity. In *The Oxford handbook of names and naming*.
Cowell, A. (2004). Arapaho placenames in Colorado: indigenous mapping, white remaking. *Names*, 52 (1), 21-41.
Darby, H. C. (1957). *Place-names and geography*.
Fitzpatrick, L. L. (1960). *Nebraska place-names* (Vol. 107). U of Nebraska Press.
Gudde, E. G., & Bright, W. (2010). *California place names: the origin and etymology of current geographical names*. Univ of California Press.

- Herman, R. K. (1999). The Aloha State: Place Names and the Anti-conquest of Hawai 'i. *Annals of the association of American geographers*, 89(1), 76-102.
- Higman, B., & Hudson, B. (2009). *Jamaican place names*. University of the West Indies Press.
- Jepson, B. (2011). *English Place-Name Elements Relating to Boundaries*. Centre for Languages and Literature, Lund University.
- Lauder, A. F., & Lauder, M. R. (2015). Ubiquitous place names: Standardization and study in Indonesia. *Wacana*, 16(2), 383-410.
- Light, D. (2014). Tourism and toponymy: commodifying and consuming place names. *Tourism Geographies*, 16(1), 141-156.
- Mills, D. (2011). *A dictionary of British place-names*. Oxford university press.
- Pukui, M. K., Elbert, S. H., & Mookini, E. T. (1976). *Place names of Hawaii*. University of Hawaii Press.
- Rose-Redwood, R., Alderman, D., & Azaryahu, M. (2010). Geographies of toponymic inscription: new directions in critical place-name studies. *Progress in Human Geography*, 34(4), 453-470.
- Stewart, G. R. (1954). A classification of place names. *Names*, 2(1), 1-13.

SERVICES OFFERED AT THE NATIONAL ORTHOPEDIC HOSPITAL SCHOOL FOR CRIPPLED CHILDREN: AN ASSESSMENT

Jojit A. Bautista

Asian Institute of Computer Studies

ABSTRACT

The study assessed the services offered at the National Orthopedic Hospital School for Crippled Children, focusing on administrative and instructional services as evaluated by teachers and students. Findings revealed that classrooms were generally spacious and well-ventilated, restrooms-maintained cleanliness and ventilation, the canteen was adequately lit, and clinic facilities had basic provisions such as hospital beds. The guidance office, corridors, and signages were functional, while the library, computer room, and play and recreation areas had sufficient resources and qualified personnel. However, gaps were noted in areas such as availability of medical staff, cleanliness of facilities, adequacy of healthy food options in the canteen, and up-to-date instructional resources. Statistical analysis showed significant differences in assessments regarding classrooms, restrooms, and trainings/seminars, while no significant differences were found in other services. Overall, the findings underscore that while many services are viewed consistently and positively by both groups, targeted improvements are essential in specific areas. Enhancing classroom and restroom facilities and strengthening the relevance and student-centeredness of trainings and workshops will help create a more inclusive, supportive, and effective learning environment for all, especially PWD students.

Keywords: Assessment, School for Crippled Children, Administrative services, Instructional services, Profile

INTRODUCTION

Education is a foundation that sets the future development and route in life later on (Mcguire , 2010). But alarmingly, most of our countrymen do not have access to this specially to the children with disability and furthermore, most of the educational facilities are ill-equipped and unfit to house such activities. The deplorable quality together with the excess number of students that affects the student to classroom ratio has made learning very hard on an already struggling educational system.

However, according to the National Statistics Office in 2013, there was an estimated increase of 111,784,600 in Children With Disability population by 2020. This only adds pressure to pursue “special” educational responses to combat an already overpopulated educational program in the country. Building more classrooms adds little value to the quality of education if the academic programs are not equally set to all. It may be a promiscuous way to say these things, but it is the truth. How much more difficult it is to learn for the handicapped, with their physical limitations while is already a factor in the learning curve, adding more obstacles in their education may be detrimental to their future. As such, our government and other organizations have made efforts to solve the problem with special teaching facilities to house the academic needs and endeavor of our handicapped brethren, there are only a handful of SPED (special education) schools out there, and these schools are concentrated within the Metro (Metro Manila). SPED is just being integrated into public schools, and this becomes the problem. These public schools lack the necessary facilities and are ill-equipped to cater to the needs of the CWD’s. Clearly, a more specialized school is needed to provide quality education to all.

According to Kunstler, J. (2010), The United Nations Standard Rules on Equalization of Opportunity for Persons with Disabilities, over fifty countries worldwide had either passed laws or interpreted or re-written their constitutions to address disability rights. More recently, the UN Convention on the Rights of Persons with Disabilities had been ratified by at least 21 countries (although the United States has yet

to pass this). Ensuring accessibility for people with disabilities means more than school building ramps, elevator, railing and handrails, classrooms, chairs, libraries and accessible restrooms. It calls for a change in basic attitudes, a change that has been at least partially accomplished in the United States and many other countries, but which hasn't even started in some others. That attitude change and mindset towards the disabled will not be accomplished until a great majority of people around the world understand that individuals with disabilities are not merely defined by their disabilities.

National Orthopedic Hospital School for Crippled Children in Quezon City is a special school that provides formal and informal education to children with exceptional needs, whose commonality is being orthopedically handicapped. It was established in 1947 when then NOH Director J.V. Delos Santos recognized the need for Special Education (SPED) teachers to conduct bedside teaching for a growing number of patients who were elementary school children. Initially, these children—whose ailments required months or years of hospital confinement—received instruction from volunteers. Later on, teachers were assigned to the hospital through the defunct Bureau of Public Schools. In September 1963, the NOH transferred to its present site on Banawe Street, Quezon City. The NOH School for Crippled Children was then placed under the supervision of the SPED Unit of the Bureau of Education. In 1964, with the increase in student enrollment, the High School Department was opened with support from the Division of City Schools, Quezon City. In 1970, Sr. Roos Catry, ICM, a Belgian missionary who served as a volunteer at the National Orthopedic Hospital, took charge of the Persons with Disability Department. Through her efforts, disabled patients were able to complete both elementary and high school education at NOH-SCC free of charge. As an added enrichment, students also learned to play musical instruments, which they showcased at parties, hotels, and concerts. The group was able to raise funds for Caring Hands to Inspire and Link with Differently Abled Children (CHILD), a project of the Great Physician Rehabilitation Foundation, Inc. The facilities of NOH-SCC were recognized for upholding the rights and needs of orthopedically handicapped students in compliance with building standards under Republic Act 10754, An Act Expanding the Benefits and Privileges of Persons with Disability.

This study aims to enhance the development of special education, improve school facilities, and strengthen the services offered to students with orthopedic disabilities. Furthermore, it seeks to make the teaching profession more attractive and effective in terms of performance. Specifically, the researcher intends to determine the extent of services being provided by the National Orthopedic Hospital School for Crippled Children and to prepare an action plan to further improve these services.

Research Problem

The main problem of the study is assessing the services offered at the National Orthopedic Hospital School for Crippled Children.

Specifically, it aimed to answer the following questions:

1. What is the profile of respondents in terms of:
 - 1.1 Age
 - 1.2 Gender
 - 1.3 Grade Level
2. How may the respondent's assessment of the student Services Offered of the National Orthopedic Hospital School for Crippled children be described in terms of:
 - 2.1 Administrative Services
 - 2.1.1 Classrooms
 - 2.1.2 Restrooms
 - 2.1.3 Canteen
 - 2.1.4 Clinic
 - 2.1.5 Guidance Office
 - 2.1.6 Corridors
 - 2.1.7 Signages
 - 2.2 Instructional Services
 - 2.2.1 Library
 - 2.2.1 Computer Room
 - 2.2.1 Play and Recreation Area
 - 2.2.1 Training and Seminars, Workshops

3. How significant is the difference on the respondents' assessment regarding the services offered at the National Orthopedic Hospital School for Crippled Children in terms of the indicators cited above?

METHODOLOGY

Research Design. This study employed the descriptive research design, which, as Saunders et al. (2011) explained, is appropriate when the objective is to determine the current status of an issue and to describe existing conditions in relation to variables of interest. Since the study aimed to assess the services offered at the National Orthopedic Hospital School for Crippled Children, this design was considered most suitable.

Population. The respondents of the study consisted of 56 participants, composed of 23 teachers and 33 PWD students. A systematic sampling technique was used to ensure that all members of the population had an equal chance of being selected.

Instrument. The primary research instrument was a structured questionnaire, which covered two major areas: administrative services and instructional services. The instrument used a three-point Likert-type scale ranging from "Very Evident" to "Not Evident." To complement the quantitative data, unstructured interviews were conducted with teachers and students to gather qualitative insights, opinions, and comments that enriched the findings. The validity and reliability of the questionnaire were ensured through consultations with the adviser, teachers, and Education Program Supervisors.

Data Gathering Procedure. Prior to the conduct of the study, the researcher obtained formal permission from the school administration. Upon approval, the respondents were oriented about the objectives of the study and were encouraged to answer the questionnaire honestly. Questionnaires were administered and retrieved on February 12, 2018. To further verify the responses, unstructured interviews were conducted, after which the data were encoded, summarized, analyzed, and interpreted.

Data Analysis. The data gathered were analyzed using descriptive and inferential statistics. Percentages were used to describe the respondents' profile in terms of age, gender, and grade level, while the weighted mean determined the assessment of administrative and instructional services. Slovin's formula was applied in determining the appropriate sample size, and the t-test was used to identify significant differences between the assessments of teachers and students regarding the services offered at the National Orthopedic Hospital School for Crippled Children.

RESULTS AND DISCUSSIONS

I. Profile of the Respondents

Table 1. Gender Distribution of the Respondents

Gender	Teacher		Students		Total	
	f	%	f	%	f	%
Male	2	9	11	33	13	24
Female	21	91.3	22	67	41	76
Total	23	100	33	100	54	100

Table 1 presents the distribution of respondents according to gender. Out of the 54 respondents, a total of 13 or 24% were male, while 41 or 76% were female. Among the teachers, the majority were female (91.3%), with only 9% male. Similarly, among the students, females also comprised the larger proportion (67%) compared to males (33%). This indicates that both teacher and student populations at the National Orthopedic Hospital School for Crippled Children were predominantly female, reflecting a strong female representation in the school community.

Table 2. Distribution of Respondent According to Age

Age	Teachers		Students		Total	
	f	%	f	%	f	%
17 – 25	0	0	27	82	27	48
26 -34 years old	5	22	5	15	10	18
35 -43 years old	9	39	1	3	10	18
44 -52 years old	4	17	0	0	4	7
53 years old and Above	5	22	0	0	5	9
Total	23	100	33	100%	56	100

Table 2 shows the age distribution of the respondents. Out of the 56 respondents, nearly half (48%) belonged to the 17–25 age bracket, all of whom were students. Among the teachers, the largest group fell within the 35–43 age range (39%), followed by those aged 26–34 (22%) and 53 years and above (22%). A smaller proportion of teachers were in the 44–52 age group (17%). This suggests that the student respondents were generally young, while the teachers were distributed across a wider range of age groups, with a concentration in the middle-age category.

2. Assessment of the School Services

2.1. Administrative Services

Table 3 presents the assessment of teachers and students on the administrative services with respect to classroom facilities. For the teachers' assessment, the overall grand mean of 2.53, verbally described as Very Evident (VE), indicates that classroom services were generally perceived as adequately provided. Teachers consistently rated the indicators higher (grand mean = 2.70, VE) compared to students (grand mean = 2.36, E), suggesting that teachers had a more favorable view of the facilities.

Specifically, both teachers and students agreed that classrooms had enough tables and chairs for all students (2.66, VE). However, students tended to rate certain aspects lower, particularly availability of light sources (2.21, E), cleanliness and tidiness (2.27, E), and spaciousness/ventilation (2.33, E), while teachers rated these as Very Evident. The lowest-rated indicator overall was the adequacy of multimedia equipment (2.46, E), suggesting room for improvement in technology support.

Table 3. Respondents' Assessment of Classrooms

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Spacious and well-ventilated for the comfort of PWD students.	2.78	VE	2.33	E	2.55	VE
Have available ramps, handrails that lead to the entry way of the classroom for wheelchairs and cane users.	2.69	VE	2.39	E	2.54	VE
Have enough tables and chairs for all students.	2.73	VE	2.60	VE	2.66	VE
Well equipped with multimedia equipment such as projectors, whiteboards, speakers and computers.	2.56	VE	2.36	E	2.46	E
Cleanliness and tidiness are well maintained all the time.	2.74	VE	2.27	E	2.50	VE
Have enough source of light (e.g. sunlight, fluorescent or LED bulbs).	2.72	VE	2.21	E	2.47	E
Grand Mean	2.70	VE	2.36	E	2.53	VE

Legend:

Scale
2.50-3.00
1.50-2.49
1.0-01.49

Descriptive Rating
Very Evident (VE)
Evident (E)
Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The overall assessment highlight that while classrooms were generally functional and supportive of student learning—particularly for learners with disabilities—there remain areas that require improvement. Adequate lighting is essential to reduce eye strain, improve concentration, and create an environment conducive to reading and writing activities. Similarly, the lack of multimedia resources limits opportunities for interactive and technology-aided instruction, which are now integral to 21st-century learning and inclusive education. In addition, cleanliness plays a critical role in maintaining a safe, healthy, and motivating learning environment, especially for PWD learners whose health and mobility challenges make them more vulnerable to poor sanitation. Addressing these gaps would ensure that classroom facil-

ities not only remain functional but also meet the evolving expectations of students and align with inclusive education standards.

Table 4. Respondents' Assessment of Restrooms

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Has ramps and handrails by to toilet and urinal for PWD's use.	2.39	E	2.19	E	2.29	E
Cleanliness is well maintained all the time.	2.56	VE	2.20	E	2.38	E
Well ventilated (has windows or ventilation fan)	2.65	VE	2.21	E	2.43	E
Flooring is dry all the time to prevent accidents.	2.60	VE	2.12	E	2.36	E
Availability of cleaning toiletries (soap, alcohol, tissue).	2.21	E	2.18	E	2.21	E
Grand Mean	2.06	V	2.18	E	2.33	E

Legend : **Scale** **Descriptive Rating**
2.50-3.00 Very Evident (VE)
1.50-2.49 Evident (E)
1.0-01.49 Not Evident (NE)
WM= Weighted Mean
VD= Verbal Description

The respondents' assessment of the administrative service in terms of restrooms shows that, overall, the facilities were rated "Effective" (Grand Mean = 2.33) but still require considerable improvement to fully meet the needs of students, especially those with disabilities.

Accessibility (Has ramps and handrails by the toilet and urinal) received a low rating (WM = 2.29, E), indicating that the restrooms are not fully compliant with accessibility standards for PWD learners. This suggests a gap in inclusive facility design.

Cleanliness was rated very effective by teachers (WM = 2.56) but only effective by students (WM = 2.20), leading to an overall "Effective" rating (WM = 2.38). This implies inconsistency in maintenance that students, as primary users, notice more frequently.

Ventilation received a mixed evaluation, with teachers rating it very effective (WM = 2.65) but students assessing it as merely effective (WM = 2.21). The overall "Effective" rating (WM = 2.43) points to adequate but not optimal air circulation.

Flooring safety (dryness) was again highly rated by teachers (WM = 2.60, VE) but lower by students (WM = 2.12, E), averaging to "Effective" (WM = 2.36). This suggests that while safety precautions exist, students may still encounter risks of slipping due to wet floors.

Availability of cleaning toiletries (soap, alcohol, tissue) received one of the lowest ratings (WM = 2.21, E), indicating that these essential supplies are often lacking, which compromises hygiene standards.

In summary, the findings indicate that while the restroom facilities are functional and meet basic expectations, they fall short of being consistently "Very Effective." The discrepancies between teacher and student assessments highlight the need for stricter maintenance, improved provision of cleaning toiletries, and more attention to accessibility features for PWD learners.

Table 5. Respondents' Assessment of Canteen

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Has adequate option for healthy and nutritious food and drinks.	2.30	E	1.84	NE	2.07	E
Has enough tables and chairs.	2.21	E	2.06	E	2.13	E
Area is always well ventilated. (With electric fan or air-conditioning system).	2.31	E	2.22	E	2.26	E
Area is always well lit from sunlight or fluorescent/ LED bulbs.	2.39	E	2.39	E	2.39	E
Has designated area for hand washing.	2.17	E	2.21	E	2.19	E
Cleanliness and tidiness is always observed.	2.08	E	2.12	E	2.10	E
Grand Mean	2.24	E	2.14	E	2.19	E

Legend : **Scale** **Descriptive Rating**
2.50-3.00 Very Evident (VE)
1.50-2.49 Evident (E)
1.0-01.49 Not Evident (NE)
WM= Weighted Mean
VD= Verbal Description

The respondents' assessment of the canteen services yielded a grand mean of 2.19, which corresponds to "Effective" (E). This indicates that the canteen generally meets the basic needs of both teachers and students but falls short of being highly satisfactory or "Very Effective." This implies the need to improve the services of the canteen.

Availability of healthy and nutritious food and drinks received one of the lowest ratings (WM = 2.07, E), with teachers rating it as effective (WM = 2.30) but students rating it as not effective (NE, WM = 1.84). This suggests that while some healthier food options are available, they are either limited, unaffordable, or not appealing to students, which impacts their perception of the canteen. The findings suggest that food and drinks being served at the canteen should consider the preferences of the students.

Tables and chairs (WM = 2.13, E) were assessed as adequate but not highly satisfactory, indicating occasional crowding or shortage during peak hours. The result indicates the need to inspect the available chairs and services at the canteen to determine what needs to be enhanced to gain the approval of the customers or students.

Ventilation (WM = 2.26, E) was rated effective, implying that the air circulation is acceptable but could still be improved, especially during hot weather or busy times. The canteen management should prioritize comfort for students while eating so that they could relax and eat properly. When students go back to their classrooms after eating well, they will feel recharged and ready to participate during the discussions.

Lighting received the highest rating (WM = 2.39, E), showing that the canteen is sufficiently illuminated, either by natural or artificial light, which enhances visibility and cleanliness. Proper lighting at the canteen with adequate ventilation will make students feel good while eating.

Handwashing area (WM = 2.19, E) was considered effective, but the score suggests that facilities may be functional yet limited in number, location, or supply of soap and water. School management should provide adequate clean water and soap for students to ensure that they wash their hands properly before eating. This will prevent students from getting sick because of improper handwashing.

Cleanliness and tidiness (WM = 2.10, E) were rated as effective, indicating that while the canteen is generally clean, there may be lapses during high-traffic hours or in waste management practices. Canteen management should observe hygiene and sanitation at the canteen to ensure safety and well-being of students.

Overall, the results suggest that the canteen provides a functional environment for students and teachers, but improvements are needed in offering healthier food choices, increasing seating capacity, and ensuring more consistent cleanliness and ventilation. Careful selection of food, cleanliness, comfort, and sanitation are important in school canteens to ensure good health and well-being of students and other customers. Nutritious food and drinks are crucial in physical and cognitive development, academic performance, and over-all health. Properly managed school canteens help instill healthy eating habits and serve as hands-on-training for Home Economics for students. Furthermore, the canteen contributes to a positive and supportive school environment by promoting a healthy food culture and offering a convenient source of meals and snacks throughout the day.

Table 6. Respondents' Assessment of the Clinic

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Has available medical personnel all the time (doctor, nurse).	1.91	E	2.06	E	1.98	E
Has enough medical supplies such as medicine, oxygen tank, wheelchair, for emergency situations.	1.96	E	1.96	E	1.96	E
Has at least one hospital bed where a patient may lie on.	2.04	E	2.09	E	2.06	E
Area is well ventilated.	2.08	E	2.03	E	2.05	E
Cleanliness and tidiness are observed all the time.	2.09	E	1.93	E	2.01	E
Grand Mean	2.02	E	2.01	E	2.00	E

Legend :

Scale
2.50-3.00
1.50-2.49
1.00-01.49

Descriptive Rating
Very Evident (VE)
Evident (E)
Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The assessment of the school clinic by both teachers and students resulted in a grand mean of 2.00, which falls under the category “Evident (E)”. This means that while the clinic provides basic health services, it does so only at a minimal or satisfactory level, and significant improvements are still needed to ensure a more reliable and responsive medical service for the school community.

Availability of medical personnel (WM = 1.98, E): Both teachers and students agreed that medical personnel such as doctors or nurses are present, but not consistently “all the time.” This indicates that access to immediate medical attention may be limited, especially in emergencies.

Availability of medical supplies (WM = 1.96, E): The presence of basic medical supplies (medicine, oxygen tank, wheelchair) was rated only as evident, suggesting inadequacy in quantity, quality, or accessibility during emergency situations.

Hospital bed availability (WM = 2.06, E): Respondents agreed that at least one hospital bed is available for patient use, but the rating still reflects only a functional minimum rather than an optimal facility.

Ventilation (WM = 2.05, E): The clinic is fairly well ventilated, but the score suggests that airflow and comfort may need improvement, especially during peak usage or warmer months.

Cleanliness and tidiness (WM = 2.01, E): Although cleanliness is evident, it is not consistently well-maintained, which may affect the overall confidence of students and teachers in the clinic’s hygiene standards.

The findings imply that the administrative service in terms of the clinic is not sufficient, as it cannot be considered effective without the presence of a doctor or nurse in the school, especially in a special education setting. However, proper coordination between teachers and the school administrator should be intensified to address essential needs, such as the availability of medicine in case of emergencies.

Table 7. Respondents’ Assessment of the Guidance Office Services

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Has approachable guidance personnel all the time.	2.26	E	2.15	E	2.20	E
Has enough table and chairs available for students and guidance personnel.	2.14	E	2.63	VE	2.39	E
Equipped with appropriate guidance equipment/ appliances such as computer, TV, CD player.	2.27	E	2.09	E	2.18	E
Area is well ventilated.	2.30	E	2.60	VE	2.45	E
Cleanliness and tidiness are always observed.	2.13	E	2.33	E	2.23	E
Grand Mean	2.22	E	2.36	E	2.29	E

Legend :

Scale
2.50-3.00
1.50-2.49
1.0-01.49

Descriptive Rating

Very Evident (VE)
Evident (E)
Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The assessment of the Guidance Office services resulted in a grand mean of 2.29, which falls under the category “Evident (E).” This indicates that the services of the Guidance Office are functional and available, but not at a level that can be considered highly satisfactory.

The approachability of the guidance personnel was rated evident, suggesting that while they are generally accessible, their presence and responsiveness need to be strengthened. In terms of facilities, students expressed higher satisfaction with the availability of tables and chairs, rating it as very evident, while teachers gave a lower rating, leading to an overall interpretation of only evident. This difference implies that although students find the space adequate, teachers may perceive limitations in terms of seating arrangement or sufficiency.

The availability of equipment and appliances such as computers, television, or CD players was also rated evident, which reflects the presence of some resources but highlights the need for more updated or additional tools to improve service delivery. The physical environment of the Guidance Office, particularly its ventilation, received one of the highest scores, with students rating it as very evident and teachers as evident, suggesting that the office is conducive to counseling activities. Cleanliness and tidiness, though positively observed, were also rated only evident, which points to the need for more consistent maintenance.

Overall, the findings reveal that while the Guidance Office is able to deliver its services effectively, improvements are still needed in terms of equipment, personnel availability, and facility maintenance to elevate its performance to a very evident level.

Table 8. Respondents' Assessment of the Corridors

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Pathway is wide enough for wheelchairs.	2.35	E	2.40	E	2.38	E
Pathway is slip free and always dry	2.21	E	2.38	E	2.30	E
Doors are wide enough for wheelchairs or pass through.	2.34	E	2.24	E	2.29	E
Two-way doors are installed for the convenience of every PWD students.	2.33	E	2.37	E	2.35	E
Ramps and handrail bars are installed on pathways.	2.27	E	2.39	E	2.31	E
Corridors are well lit with natural or artificial lighting.	2.26	E	2.21	E	2.23	E
Corridors are well ventilated.	2.25	E	2.41	E	2.33	E
Grand Mean	2.29	E	2.34	E	2.31	E

Legend :

Scale
2.50-3.00
1.50-2.49
1.0-01.49

Descriptive Rating
Very Evident (VE)
Evident (E)
Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The respondents' assessment of the corridors resulted in a grand mean of 2.31, which is interpreted as "Evident (E)." This means that the corridors generally meet the minimum requirements of accessibility, safety, and functionality but still need improvement to reach a highly satisfactory level. Both teachers and students agreed that the pathways are wide enough for wheelchairs, although the overall rating suggests that some areas may still pose limitations.

The flooring was rated evident, indicating that while the pathways are generally slip-free and dry, there may be occasional maintenance issues that compromise safety. The doors were also rated evident, showing that they are adequately wide for wheelchair passage, yet not consistently at the most convenient standards. Similarly, the installation of two-way doors and ramps with handrails was recognized by both groups, but again with only evident ratings, suggesting that while these facilities exist, they may not be uniformly available across all areas or may need upgrading.

Lighting in the corridors was also rated evident, showing that while illumination is present, it is not always sufficient in all sections. Ventilation received one of the better ratings, with students giving higher scores than teachers, reflecting that airflow is generally good but could still be enhanced in certain areas.

Overall, the findings suggest that the corridors are functional and supportive of mobility for students, including those with disabilities, but consistent improvement in accessibility features, safety measures, and environmental conditions is necessary to elevate the level of service to very evident.

Table 9. Respondents' Assessment of Signages

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Classrooms, corridors, walkways, each room have appropriate and relevant signages.	2.13	E	1.84	NE	1.98	E
All signages have available Braille or raised lettering for the visually impaired PWDs	2.18	E	2.45	E	2.31	E
Writings and symbols are large enough for students to read and comprehend.	2.26	E	2.60	VE	2.43	E
Appropriate and easily visible colors are used for the writings and symbols on each signage.	2.19	E	1.66	NE	1.93	E
Students are given knowledge on the importance of the signages and how they are read and can be used for reference.	2.17	E	2.21	E	2.19	E
Grand Mean	2.19	E	2.15	E	2.17	E

Legend :

Scale
2.50-3.00
1.50-2.49
1.0-01.49

Descriptive Rating
Very Evident (VE)
Evident (E)
Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The results indicate that both teachers and students placed the highest importance on the clarity of writings and symbols on signages. Item (3), “Writings and symbols are large enough for students to read and comprehend,” ranked first overall with a weighted mean of 2.43 and a descriptive rating of evident. This shows that visibility and readability are considered essential features of effective signage in classrooms, corridors, and walkways.

For teachers, Item (3) also ranked first (WM = 2.26, Evident), followed by Item (4), “Appropriate and easily visible colors are used for the writings and symbols on each signage,” (WM = 2.19, Evident). Meanwhile, Item (1), “Classrooms, corridors, walkways, each room have appropriate and relevant signages,” ranked last with a weighted mean of 2.13, suggesting that teachers observed inadequacies in the availability and appropriateness of signages across learning spaces.

From the perspective of students, Item (3) likewise ranked first (WM = 2.60, Very Evident), reflecting strong recognition of the importance of readability. Interestingly, Item (2), “All signages have available Braille or raised lettering for the visually impaired PWDs,” ranked second (WM = 2.45, Evident), which highlights student awareness of inclusivity needs for visually impaired learners. However, Items (1) and (4) ranked lowest (WM = 1.84 and 1.66 respectively, Not Evident), pointing to gaps in both the sufficiency of signage and the effective use of color visibility.

Overall, the findings emphasize that while the legibility of signage is fairly evident, there remain shortcomings in their availability, visibility, and color use, especially from the students’ perspective. According to both teachers and students, efforts are being made to provide knowledge on the importance and use of signages (Item 5), but these remain insufficient. Therefore, the school administration is encouraged to strengthen initiatives by ensuring that classrooms, corridors, and walkways are equipped with adequate and accessible signages that use visible colors, appropriate symbols, and inclusive features such as Braille. This will not only aid comprehension for all learners but also promote inclusivity and safety, particularly for PWD students.

In summary, the results highlight that while the legibility of signage is generally evident, its adequacy, visibility, and inclusivity remain limited. Strengthening the provision of clear, well-designed, and accessible signages will ensure that all students, especially PWD learners, can navigate the school environment more effectively and safely.

2.2. Instructional Services

Table 10. Respondents’ Assessment of Library Services

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Area is spacious enough for comfortable mobility of wheelchair users.	2.34	E	1.72	NE	2.03	E
Well equipped with relevant and up to date books and references such as Encyclopedias, Almanacs, Dictionaries, and Atlases.	2.22	E	2.18	E	2.2	E
Has additional informative reading materials such as magazines, newspapers, and circular journals.	2.23	E	2.51	VE	2.37	E
PWD students have access to handrails and ramps going in and out of the facility.	2.21	E	2.39	E	2.30	E
Cleanliness, tidiness, and orderliness are well maintained at all times.	2.30	E	2.24	E	2.27	E
A library personnel is available to assist at all times.	2.35	E	2.30	E	2.33	E
Area is well ventilated with either an electric fan or air conditioning.	2.13	E	1.90	E	2.01	E
Area is well lit with natural or artificial lighting.	2.24	E	2.46	E	2.35	E
Grand Mean	2.25	E	2.21	E	2.23	E

Legend :

Scale
2.50-3.00
1.50-2.49
1.0-01.49

Descriptive Rating
Very Evident (VE)
Evident (E)
Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The findings indicate that the library services were assessed as evident by both teachers (grand mean = 2.25) and students (grand mean = 2.21), resulting in an overall descriptive rating of evident (grand mean = 2.23). This suggests that while essential library provisions are present, there are still areas that require improvement to fully address the needs of all learners, especially students with disabilities.

Teachers gave the highest rating to the availability of library personnel to assist at all times (WM = 2.35, E), while students rated access to informative reading materials such as magazines, newspapers, and journals most favorably (WM = 2.51, VE). Both groups, however, rated the spaciousness of the area for wheelchair mobility (teachers = 2.34, E; students = 1.72, NE) and ventilation (teachers = 2.13, E; students = 1.90, E) among the lowest.

The results imply that although the library provides adequate resources and assistance, its physical environment—particularly space and ventilation—needs enhancement to ensure accessibility, comfort, and inclusivity. Improvements in these aspects, along with maintaining updated and diverse reading materials, will strengthen the library’s role as a conducive learning space for both regular and PWD students.

Table 11. Respondents’ Assessment of Computer Room

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Has enough computers (desktop, laptop) for each PWD students at a specific given time.	2.54	VE	2.51	VE	2.53	VE
Computer software, programs, and operating systems are up to date.	2.57	VE	1.72	NE	2.15	E
Has a qualified computer teacher/instructor that handles Classes.	2.61	VE	2.52	VE	2.57	VE
Area is spacious enough and is suited for PWD equipment such as wheelchairs.	2.55	VE	2.06	E	2.31	E
Cleanliness and tidiness is well maintained.	2.56	VE	2.21	E	2.38	E
Room is well ventilated.	2.60	VE	2.22	E	2.41	E
Room is well lit with natural or artificial lighting.	2.52	VE	2.60	VE	2.56	VE
Grand Mean	2.56	VE	2.26	E	2.41	E

Legend :

Scale
2.50-3.00
1.50-2.49
1.0-01.49

Descriptive Rating
Very Evident (VE)
Evident (E)
Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The overall results show that teachers assessed the computer room more positively (grand mean = 2.56, very evident) compared to students (grand mean = 2.26, evident). This indicates a difference in perception, with teachers finding the facilities and services highly adequate, while students identified areas needing further improvement.

Both groups rated the presence of a qualified computer teacher/instructor among the strongest indicators (teachers = 2.61, VE; students = 2.52, VE; overall WM = 2.57, VE), along with the availability of computers for PWD students (overall WM = 2.53, VE) and adequate lighting in the room (overall WM = 2.56, VE). These findings highlight that instructional support and basic provisions of technology are consistently recognized.

On the other hand, notable gaps were observed in certain areas. Students rated the currency of software, programs, and operating systems as not evident (WM = 1.72), in contrast with teachers who rated it very evident (WM = 2.57). This disparity suggests a possible mismatch between teachers’ perception of software adequacy and students’ actual experience using them. Similarly, indicators on cleanliness, ventilation, and spaciousness were only rated as evident overall, signaling that environmental conditions of the room may hinder its full functionality and comfort, especially for PWD learners.

The results imply that while the computer room is equipped with sufficient resources and qualified personnel, ensuring updated software and improving the physical environment (ventilation, cleanliness, and space) should be prioritized to create an inclusive and effective learning environment.

Table 12. Respondents’ Assessment of Play and Recreation Area

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
Has PWD appropriate play and recreation equipment, activities, tools, or facilities such as board games, gardening, painting, singing, etc.	2.52	VE	2.15	E	2.33	E
Area is spacious enough for PWD students to cater to the different activities.	2.13	E	2.22	E	2.18	E
Has trained and professional personnel that supervises activities in the Play and Recreation Area.	2.22	E	2.60	VE	2.41	E

Area is well ventilated.	2.57	VE	2.21	E	2.39	E
Cleanliness, tidiness is well maintained all the time.	2.21	E	2.16	E	2.19	E
Grand Mean	2.33	E	2.27	E	2.30	E

Legend : **Scale** **Descriptive Rating**
2.50-3.00 Very Evident (VE)
1.50-2.49 Evident (E)
1.0-01.49 Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

The overall assessment of the play and recreation area yielded a grand mean of 2.30, interpreted as evident. This suggests that the facilities and services are available and functional but still require enhancement to fully address the needs of PWD learners.

Among the indicators, teachers rated ventilation (WM = 2.57, VE) and the availability of appropriate play and recreation equipment (WM = 2.52, VE) as the most evident strengths of the facility. Similarly, students gave their highest rating to the presence of trained and professional personnel supervising activities (WM = 2.60, VE), indicating that guided facilitation adds value to recreational experiences.

On the other hand, both groups gave relatively lower ratings to the adequacy of space (overall WM = 2.18, E) and cleanliness (overall WM = 2.19, E). These findings imply that while the play area is serviceable, it may not yet provide sufficient space for diverse activities or maintain a consistently high level of orderliness, which are essential for safety and accessibility.

The results indicate that the play and recreation area is a supportive environment but has room for improvement. Ensuring consistent cleanliness, expanding space for varied activities, and continuously upgrading facilities will help maximize its role in promoting the holistic development of PWD students.

Table 13. Respondents' Assessment of Training and Seminars, Workshops

Indicators	Teachers		Students		Average	
	WM	VD	WM	VD	WM	VD
The school has a regular schedule of trainings, seminars, or workshops for PWD students and teachers.	2.47	E	2.22	E	2.35	E
Trainings, seminars, or workshops are free or very affordable for the PWD students and teachers.	2.44	E	2.13	E	2.29	E
Professional speakers, lecturers, or trainers are handling the aforementioned activities.	2.34	E	2.39	E	2.36	E
PWD related content and topics are always observed during the trainings, seminars, or workshops.	2.39	E	2.12	E	2.25	E
The aforementioned activities make the students understand and cope with their situation better.	2.43	E	1.84	NE	2.13	E
Physical, mental, emotional, and intellectual growth is always the priority target of each trainings, seminars, and workshops.	2.21	E	2.21	E	2.21	E
Grand Mean	2.38	E	2.15	E	2.27	E

Legend : **Scale** **Descriptive Rating**
2.50-3.00 Very Evident (VE)
1.50-2.49 Evident (E)
1.0-01.49 Not Evident (NE)

WM= Weighted Mean
VD= Verbal Description

Table 13 presents the respondents' assessment of the trainings, seminars, and workshops conducted for PWD students and teachers. The computed grand mean of 2.27, verbally described as Evident (E), indicates that while such activities are present, they are not strongly manifested in the school setting.

Both teachers (WM = 2.38, E) and students (WM = 2.15, E) affirmed that these activities are only evident to some extent. Among the indicators, the highest mean rating was obtained from the provision of professional speakers, lecturers, or trainers (WM = 2.36, E), suggesting that the school invites competent resource persons to facilitate the activities. This reflects a positive practice in ensuring that the sessions are handled by qualified experts.

On the other hand, the lowest mean rating was observed in the indicator stating that the activities make the students understand and cope with their situation better (WM = 2.13, E; with students rating it only 1.84, Not Evident). This finding reveals that despite the presence of trainings and seminars, students do not strongly perceive these as helpful in addressing their personal challenges as PWDs.

Furthermore, affordability of the activities (WM = 2.29, E) and consistent integration of PWD-related content (WM = 2.25, E) were also rated only as "Evident," suggesting room for improvement in ensuring accessibility and relevance of the topics discussed.

Overall, the results highlight that while trainings, seminars, and workshops are organized, their frequency, inclusivity, and impact on PWD students' coping mechanisms remain limited. Thus, there is a need to strengthen program design by prioritizing affordability, PWD-specific content, and student-centered approaches to better support the holistic growth of learners with disabilities.

3. Comparison of the Assessment of the Different Administrative Services

Table 14. Difference on the Respondents' Assessment of Administrative Services

Administrative Services	Computed Value	Critical Value	Interpretation
Classroom	5.4487	1.96	Significant Ho: Rejected
Restroom	3.6452	1.96	Significant Ho: Rejected
Canteen	1.1351	1.96	Not Significant Ho: Accepted
Clinic	.02159	1.96	Not Significant Ho: Accepted
Guidance Office	1.1976	1.96	Not Significant Ho: Accepted
Corridors	1.3587	1.96	Not Significant Ho: Accepted
Signages	.2233	1.96	Not Significant Ho: Accepted

Table 14 shows the comparison of the respondents' assessment of the different administrative services. The test of difference at the 0.05 level of significance reveals that there are variations in how teachers and students assessed certain administrative services.

For the classroom (Computed Value = 5.4487 > Critical Value = 1.96) and the restroom (Computed Value = 3.6452 > Critical Value = 1.96), the results are significant, leading to the rejection of the null hypothesis (Ho). This indicates that teachers and students differed significantly in their perceptions of these facilities. The difference may be attributed to the fact that students are the direct and frequent users of these areas, thus experiencing more of the inadequacies or strengths of these services compared to teachers.

On the other hand, for the canteen ($1.1351 < 1.96$), clinic ($0.02159 < 1.96$), guidance office ($1.1976 < 1.96$), corridors ($1.3587 < 1.96$), and signages ($0.2233 < 1.96$), the results are not significant, and the null hypothesis is accepted. This suggests that both teachers and students have relatively similar assessments of these services. Their shared experiences and expectations of these facilities might explain the consistency in responses.

The significant differences in the assessment of classroom and restroom services indicate that these areas require closer attention from school administrators. Since students are the primary users, their lower satisfaction levels may reflect unmet needs related to space, cleanliness, accessibility, or functionality. Addressing these concerns would directly improve the learning environment and contribute to a more inclusive and comfortable school experience, particularly for PWD students.

The non-significant results in canteen, clinic, guidance office, corridors, and signages suggest that both teachers and students share similar perceptions of these services. This consistency indicates that these facilities are generally meeting expectations. However, the absence of significant differences should not be interpreted as absence of issues; rather, it highlights an opportunity to maintain current practices while gradually enhancing them to achieve higher standards of service.

The results provide valuable insights for decision-makers to prioritize resources and interventions. Strengthening classroom and restroom facilities will address the identified gaps, while sustaining the quality of other services will help foster a supportive and inclusive school environment.

Table 15. Difference on the Respondents' Assessment of Instructional Services

Instructional Services	Computed Value	Critical Value	Interpretation
Library	.1409	1.96	Not Significant Ho: Accepted
Computer Room	.0847	1.96	Not Significant Ho: Accepted
Play and Recreation Area	.5649	1.96	Not Significant Ho: Accepted
Training and Seminars, Workshops	2.7677	1.96	Significant Ho: Rejected

Table 15 shows the test of difference between teachers' and students' assessment of instructional services at the 0.05 level of significance. For the library ($0.1409 < 1.96$), computer room ($0.0847 < 1.96$), and play and recreation area ($0.5649 < 1.96$), the computed values are all lower than the critical value. This indicates that the differences in assessments between teachers and students are not significant, leading to the acceptance of the null hypothesis (Ho). The result implies that both groups share relatively similar perceptions about the adequacy and effectiveness of these services. Their common experiences with these facilities may have led to consistent evaluations.

In contrast, the assessment of trainings, seminars, and workshops yielded a computed value of 2.7677, which is greater than the critical value of 1.96. This result is significant, leading to the rejection of the null hypothesis. It means that teachers and students differ in their perceptions of the trainings and seminars provided. Teachers rated these activities more positively, while students were less satisfied—especially in areas related to coping with their situation and relevance of PWD-focused content.

In summary, teachers and students have consistent views on most instructional services such as the library, computer room, and play and recreation areas. However, their differing perceptions of trainings and workshops reveal a gap in how these activities are experienced and valued, suggesting that improvements are needed to make such programs more responsive to the students' needs.

CONCLUSIONS

Based on the findings of this research study, the following conclusions were formulated.

1. Majority of the teacher respondents belonged to 35-43 age bracket and most of them were female and majority were 17-25 years of age and most of them were female.
2. Classrooms were assessed as spacious and well-ventilated. Cleanliness and ventilation of rest rooms were well-maintained. Canteen area was well-light and well-ventilated. In terms of clinic facilities, there was at least one hospital bed available. Guidance Office has enough tables and chairs for students' and guidance personnel use. Pathway/Corridors were wide enough for wheelchairs. Writings and Symbols on Signages were large enough to be read.
3. Library facilities had enough reading materials. Had trained personnel assigned in the Play and Recreation Area. Had qualified Computer teachers. Had Professional speakers/trainers during training.
4. The analysis of differences in the assessment of administrative and instructional services reveals that while teachers and students share similar views on most areas, notable gaps still exist. For administrative services, significant differences were observed in the classroom and restroom, highlighting the need for improvement in facilities most frequently used by students. These findings suggest that students perceive more inadequacies in terms of space, cleanliness, and accessibility, which can directly affect their comfort and learning experiences. Conversely, both groups expressed consistent assessments of the canteen, clinic, guidance office, corridors, and signages, indicating that these services generally meet expectations.

For instructional services, teachers and students reported consistent perceptions of the library, computer room, and play and recreation areas, reflecting shared experiences and satisfaction with these facilities. However, a significant difference was found in the assessment of trainings, seminars, and workshops, with teachers viewing them more positively while students expressed lower satisfaction. This divergence points to a gap in program design and implementation, particularly in ensuring that the content and activities are relevant, accessible, and responsive to the needs of PWD learners.

RECOMMENDATIONS

Based on the conclusions and findings of the study, the following recommendation were offered:

1. Students
 - 1.1 Be able to get oriented from the teachers and parents for the security measures such as reading of signages.
 - 1.2 They must participate for the development of the school through the guidance of teachers without being pressured considering that they are PWD students.
2. School Teachers and Coordinators
 - 2.1 Make sure that the teachers and coordinators are well informed about the procedures of instructions about the student security measures.
 - 2.2 Conduct a monthly meeting of teachers, coordinators, and administration for the development of services and facilities offered.
3. Crippled Education Program Administrators
 - 3.1 Establish a communication channel and feedback mechanism among teachers and parents to avoid students' lack of interest.
 - 3.2 Students and Teachers should receive advance training for the quality of services offered covering school facilities development.
4. Researcher Himself
 - 4.1 Through this study, the researcher had learned more about the school program procedures, and it could recommend conducting more study and advance training for the effectiveness and discover more facts and data about the development of the school facilities.
 - 4.2 Recommend advance training for the development of the school facilities being currently employed at the Philippine Orthopedic Center.
5. Future Researchers
 - 5.1 Conduct a study relative to School for Crippled Children Facilities and discover more facts and data that will lead to recommendation of new ideas about the issues.

REFERENCES

- Abraham, R.C. "Nutritional Problems of Elementary Pupils in Baliwag". Unpublished Dissertation, Baliwag Elementary School, January 2009.
- Adji, R. New School Feeding Program in Indonesia", New and Noteworthy in Nutrition, World Bank Community Library, Practical CD TOM Library, August 2001.
- Cloud, Henry and Townsend John. Boundaries copyright 2005, OMF Lit. Inc. Cohen, J., and =others. Helping Young Children Succeed: Strategies to Promote Early Childhood Social and Emotional Development (Washington, DC) Silva, Teresita L. Street Children and Social Work, 2005.
- Crossman, Ashley. Understanding Purposive Sampling, An Overview of the Method and Its Applications, 2016 Fite, P.J., Vitulano, M.L., Preddy, T.M. The positive impact of attending a community-based youth program on child depressive symptoms. J. Community Psychol. 39, 804–814., 2011.
- Denido, A.L. "Nutrition Status and Academic Performance of Pre School". Unpublished Master's Thesis, Pili Camarines Sur, 2002.
- Estepa, A. C. "Nutritional Status of Elementary Pupils of Holy Family Academy". Unpublished Dissertation, Holy Family Academy, June 2004.
- Florencio, C. "Nutrition, Health and Learning Some Key Concerns", A Paper Presented to the National Educators Congress, Teachers Camp, Baguio City, 1997
- Florencio, C. "The Bad Effects of Malnutrition". Published Dissertation, University of the Philippines, February 2004.
- Food Nutrition Research Institute, International Reference Standard, (IRS), Growth Table in Nutritional Assessment of School Children, March 2003
- King, Jenny. Child Rearing – An Easy Guide for Parent, Teacher and Children, World Link Marketing Corporation, 2006
- Lupangco, W.R. "Teacher – Child – Parent Approach to Health and Nutrition Program in the Division of Masbate: An Appraisal". Unpublished Dissertation, University of Saint Anthony, City of Iriga,

- 2000.
- Manios, S. "Effects of Health Education Intervention". Health and Home, October 2008.
- Quintit, Florencio M. "Nutritional Status of Grade V Pupils in Selected Schools in Sison District 1 in Pangasinan". Unpublished Dissertation, Selected Schools in District 1 Pangasinan, October 2008.
- Robas, A. C. "Effects of Milk Feeding Project and Parents' Nutritional Status, Academic Performance and Parents' Nutritional Practices". Unpublished Master's Thesis, Naga College Foundation, City of Naga, 2004.
- Rubio, A. SV. "Assessment of the Implementation of the Elementary School Nutrition Program in the Department of Education Naga City Division". Unpublished Dissertation, Naga College Foundation, City of Naga, 2004.
- Salcedo, L. Current Issue Third Edition, Makati City Katha Publishing Co., Inc., 2002
- Salmorin, M. Methods of Research, Makati City Mindshape Co., Inc, 2006
- Schuffan, A. "Malnutrition and Low Performance in Children". Published Master's Thesis, Texas University, 2006.
- Sedilla, G.C. "Nutritional Status in Relation to the Physical Fitness Performance of Intermediate Pupils in Magarao- Bombon", Unpublished Master's Thesis, Naga College Foundation, Naga City, 2004
- The Philippine Education 1987 Constitution, the Education Act of 1982 or Batas Pambansa Blg. 232, the Governance of Basic Education Act of 2001 and Basic Education Curriculum.
- Youman, J.B. "The Changing Face of Nutritional Disease". American Journal on Public Health, May 2001
- Zeithlin, M.F. "The Potential Impact of Nutrition in Education". New and Noteworthy in Nutrition, World Bank Community Library, Practical CD TOM Library, August 2001.
- <http://www.deped.gov.ph/epost.asp?id-229>
- <http://www.pia.gov.ph/?m=10&r=ALL>
- <http://www.rcam.org/hapag-as-an-intergrated-nutrion-program.h>
- <http://www.deped.gov.ph/orders/do-33-s-2015>

