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RESEARCH ARTICLE

SOCIO-ECONOMIC IMPACT OF TYPHOON KRISTINE AMONG COLLEGE STUDENTS OF THE UNIVERSITY OF SAINT ANTHONY COLLEGE OF HEALTH CARE EDUCATION

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Abstract

Disasters represent a complex global challenge and an unavoidable aspect of life. Each year, individuals and communities are impacted by these events, which can severely disrupt their mental health and overall well-being. Natural disasters often hinder economic and social development worldwide. Tropical cyclones (typhoons) are among the most destructive weather events globally, causing significant economic disruption that can reduce economic growth in affected countries for over a decade. This long-term effect is often overlooked in traditional economic assessments, which typically focus on immediate damages. Globally, typhoons and similar natural disasters have been shown to significantly disrupt economic activity. The Asian Development Bank (ADB) notes that typhoons can lead to short-lived yet substantial reductions in local economic activity, with estimates suggesting a decrease of 1% to nearly 3% depending on the storm's intensity²⁴.

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Introduction:-

Disasters represent a complex global challenge and an unavoidable aspect of life. Each year, individuals and communities are impacted by these events, which can severely disrupt their mental health and overall well-being. Natural disasters often hinder economic and social development worldwide. Tropical cyclones (typhoons) are among the most destructive weather events globally, causing significant economic disruption that can reduce economic growth in affected countries for over a decade. This long-term effect is often overlooked in traditional economic assessments, which typically focus on immediate damages. Globally, typhoons and similar natural disasters have been shown to significantly disrupt economic activity. The Asian Development Bank (ADB) notes that typhoons can lead to short-lived yet substantial reductions in local economic activity, with estimates suggesting a decrease of 1% to nearly 3% depending on the storm's intensity²⁴.

This phenomenon is not unique to the Philippines but is observed in various countries prone to tropical storms. The Philippines continues to face significant disaster risks, maintaining its position among the most disaster-prone countries globally². As of 2024, the Philippines has been ranked the most disaster-prone country in the world for the second consecutive year by the 2023 World Risk Index (WRI).

This ranking reflects the country's high exposure and vulnerability to various natural calamities, including floods, droughts, tsunamis, and earthquakes. Approximately 60% of the Philippines' total land area is exposed to multiple hazards, and 74% of the population remains susceptible to their impacts. This vulnerability is primarily due to the country's location along the Pacific Ring of Fire, which makes it prone to earthquakes and volcanic eruptions, as well as its exposure to coastal hazards such as typhoons and storm surges. Hydro-meteorological events, particularly typhoons and floods, account for over 80% of natural disasters in the Philippines over the last fifty years. The country averages 20 typhoons annually, with significant impacts on agriculture and infrastructure. Historical data shows that devastating typhoons such as Yolanda (Haiyan) in 2013 and Ompong (Mangkhot) in 2018 have had catastrophic effects on communities, resulting in loss of life and extensive damage to property. The ongoing threat from these natural disasters necessitates robust disaster risk management strategies.

The increasing frequency and intensity of typhoons in the Philippines have profound implications for the educational and economic landscapes. The Philippines is one of the most disaster-prone countries globally, experiencing an average of 20 typhoons annually, with significant impacts on local communities,

particularly among vulnerable populations such as college students. In the Philippines³, several laws govern disaster risk reduction and management. The Republic Act No. 10121,⁴ also known as the Philippine Disaster Risk Reduction and Management Act of 2010, establishes a comprehensive framework for disaster preparedness and response at all levels of government. This law mandates local government units (LGUs) to create disaster risk reduction plans that include provisions for educational institutions affected by typhoons. Moreover, the national government implements socio-economic policies to support affected populations post-disaster. Programs under the Department of Social Welfare and Development (DSWD) provide financial assistance and rehabilitation efforts that are crucial for students who may lose access to education due to economic hardships caused by typhoons. These policies are supported by various legal frameworks that ensure accountability and transparency in disaster response efforts.

Typhoon Kristine (internationally, Trami)⁵ made landfall in the Philippines recently, it claimed 151 lives and affected around 8.8 million Filipinos. In Region V (Bicol), this scenario is nothing new. Bicolanos report some of the highest levels of exposure to past disasters (89%), especially typhoons and tropical storms (77%), according to a recent survey by the Harvard Humanitarian Initiative (HHI). Bicolanos also perceive they are at risk, with 40% reporting high or extreme risk—more than any other regions outside of the Visayas and Davao. They also report experiencing impactful disasters in the last five years (65%). After enduring disasters, Bicolanos primarily identified financial and material losses as the greatest

impacts (89%), which 77% of the Filipino population also experienced. Bicolanos also cited experiencing mental health impacts (15%), followed by displacement (12%) and physical health impacts (11%).

Camarines Sur is among the regions in the Philippines highly susceptible to typhoons due to its geographical location. The local government has been proactive in implementing disaster preparedness measures as mandated by national laws. Local ordinances often reflect these national policies but are tailored to address specific regional vulnerabilities, including those affecting educational institutions like the University of Saint Anthony in Iriga City, Camarines Sur.

In Iriga City, educational institutions play a vital role in community resilience against disasters. The University of Saint Anthony has implemented various programs to ensure continuity of education during adverse conditions. These initiatives are often backed by local ordinances that promote educational resilience as part of disaster risk reduction strategies.

This demographic often faces unique challenges during and after natural disasters, including disruptions to their education, financial instability, and mental health issues. Understanding these impacts is crucial for developing targeted interventions that can support students in navigating the aftermath of such disasters. Moreover, the socio-economic repercussions of Typhoon Kristine extend beyond immediate physical damages. Previous studies have shown that typhoons can lead to increased unemployment rates, educational disruptions, and long-term psychological effects among affected populations.

This research study indicates that natural disasters can exacerbate existing vulnerabilities, particularly for economically disadvantaged families, leading to higher dropout rates and reduced access to educational resources. The study would like to examine how natural disasters have affected education, including students, teachers, and academic institutions. Furthermore, this study is aimed on investigating the impact of typhoon to student's education; their experiences and challenges they have encountered which may one way or another affected their perception towards school after the disaster.

Moreover, this study aims to fill a critical gap in understanding how Typhoon Kristine specifically affected college students at the University of Saint Anthony, providing insights to inform policy decisions and improve disaster preparedness and response strategies within educational institutions. By addressing these felt needs, the research contributes to a broader understanding of the impacts of disasters on education and highlights the importance of resilience-building measures for students in affected areas.

REVIEW OF RELATED LITERATURE AND STUDIES

The transition from adolescence to adulthood is a critical period characterized by significant changes and challenges, particularly for college students. This demographic is not homogeneous; rather, it encompasses a diverse range of experiences, backgrounds, and knowledge bases. However, they share a vulnerability to various impacts stemming from disasters, which can manifest in immediate, short-term, mid-term, and long-term effects. The socio-economic ramifications of such disasters can be profound, particularly in the context of natural calamities like Typhoon Kristine. Typhoon Kristine, which recently struck the Philippines, has underscored the susceptibility of college students to disaster-related disruptions. The storm has caused extensive damage to educational infrastructure and has significantly affected the lives of students across various regions. Reports indicate that the typhoon caused approximately PHP 3.7 billion in damage to schools nationwide, leading to widespread disruptions in education and impacting nearly 19.4 million students due to the closure of in-person classes in thousands of schools. (GMA News, 2024).⁶

A study of Strobl (2019)⁷ emphasizes that natural disasters can severely disrupt Educational systems, leading to long-term adverse effects on students' academic performance and mental health. Education is one area where the impact of natural disasters is felt. The effects of disasters on education can be divided into 3 categories: educators, students and educational facilities. Disasters can affect students and teachers physically, psychologically and socially. Educational infrastructure and facilities may be damaged.

On the other hand, Wang (2024)⁸ studied the overall impact of natural disasters on student enrollment. The findings show that natural disasters can disrupt several stages of the student enrollment process. Several key implications of natural disasters on all stages of student enrolment have been revealed. The significant outcomes are arranged into the following categories: decline in enrollment rates, financial restrictions, disrupted access to education, psychological stress, a shift to online learning, inequities in recovery, and changes in academic emphasis. Policymakers, educational institutions, and stakeholders can benefit greatly from analyzing these results as they devise policies and initiatives to lessen the impact of natural disasters on higher education enrolment.

The National Economic and Development Authority (2022) ⁹ states that the Philippines is increasingly exposed and vulnerable to natural hazards, which undermines poverty reduction and long-term growth. Typhoon Yolanda (Haiyan), which struck the Philippines in 2013, is considered the strongest typhoon¹ ever to make landfall. Typhoon Yolanda has caused over 6,300 reported fatalities and an additional 2.3 million people were estimated to have fallen below the poverty line. The total damage and loss were estimated at PHP 571.1 billion (USD 12.9 billion) hampering economic growth by about 0.9 % in 2013, and another 0.3 % in 2014.² Considering that Typhoon Yolanda was declared a level 3 category by the United Nations, it brought about several issues on the disaster governance aspect.

The event highlighted the following major issues on the side of government and all other non-government actors: coordination at all levels, aid transparency and accountability, systems and protocols for donations and assistance, conduct of post-disaster needs assessment, recovery planning, implementation, monitoring, and communications. Furthermore, Cordero's (2022)¹⁰ article, the year 2021 ended on a difficult note for millions of Filipinos as Typhoon Rai, locally known as Odette, battered the southern and central regions of the Philippines. The country has experienced disasters such as typhoons and earthquakes with increasing frequency and magnitude over the past decade. Against this backdrop, building preparedness and resilience is needed more than ever. The "Philippines ready to rebuild in the aftermath of Typhoon Rai," highlights the proactive measures taken by the Philippine government and local authorities in response to the devastation caused by Typhoon Rai in December 2021. The article emphasizes the importance of

preparedness and resilience-building programs, such as the R2R (Ready to Rebuild) Program, which equips local governments with the tools and frameworks for effective recovery and reconstruction. Moreover, Tanguihan (2022)¹¹ explored students lived experiences in higher education institutions affected by Super Typhoon Rai (Odette). Using Husserl's Phenomenological design, this study interviewed 11 informants through an individual interviews to get their experiences before, during, and after the typhoon. Many students felt unprepared for the disaster, highlighting a lack of readiness in facing such extreme weather events. There was a common sentiment among students that the severity of Typhoon Rai was underestimated, leading to inadequate precautionary measures. The aftermath of the typhoon left many students feeling hopeless about their circumstances and future prospects and Participants expressed frustration with the slow response from government authorities, which exacerbated their challenges during recovery. According to Krichene (2023),¹² Tropical cyclones (TCs) are among the most harmful extreme weather events. They effect on average 20.4 million people annually, and they caused mean direct annual economic losses of US\$ 51.5 billion averaged over the last decade. Critically, there is increasing empirical evidence

that TC impacts can reduce economic growth in the affected country for more than a decade. In consequence, the economic repercussions of subsequent events can overlap in TC-prone countries, leaving insufficient time for the economy to recover in between. In this way, the long-term reductions in economic growth may harm economic development even more strongly than the direct loss and damage caused by the TC landfalls. While Farooqi (2019)¹³ examines how socioeconomic status affects the experiences of college students at Pearson College in California. The study highlights that low-income students face significant challenges, including mental health issues and feelings of alienation, due to their financial constraints. It emphasizes the need for colleges to implement better support systems for marginalized students, particularly in the aftermath of disruptive events like natural disasters that can exacerbate existing inequalities. This study underscores the importance of addressing class-based diversity and inclusion in higher education settings.

Additionally, Ragma et al. (2020)¹⁴ investigates how socio-economic factors correlate with academic performance among high school students in a disasterprone area. It reveals that students from lower socio-economic backgrounds often struggle academically due to financial instability exacerbated by natural disasters. The research suggests that economic hardships can lead to decreased academic performance, emphasizing the importance of support systems for affected students. Finding reveals that Parents with College degrees, Parents under the blue-collar jobs, Lowland living, Income ranging from 1,000-5,000, Catholicism, Iloko dialect, No Ethnic Tribes, Small Family Size. 82 is the lowest general average of the Senior High School students while 96 is the highest. Generally, everyone passed, Parents' Educational Attainment, Religion, Family Income, Ethnic Tribe, Home Residence, and Family Size correlates significantly with the Academic Performance of Senior High School students nevertheless, each factor has a different predicting value. Parents' Occupation do not correlate at all. Sapigao, H. L. (2023). ¹⁵ The Annual Report on Philippine Tropical Cyclones 2020 noted that the Philippines experienced 22 tropical cyclones (TCs), with significant rainfall contributing to substantial flooding and damage, particularly in Luzon and Samar¹. The report emphasized that despite an overall near-normal number of TCs, the impact was severe, resulting in 112 fatalities and PHP 44.222 billion in damages, marking it as one of the costliest seasons historically.

Additionally, studies have indicated a trend towards stronger typhoons, with research from the University of the Philippines warning of potentially more intense storms in the future due to climate change effects. In 2024, a particularly extraordinary typhoon season saw six major storms impacting northern Luzon within just a month, highlighting the vulnerability of even affluent regions to flooding and landslides. This situation was further aggravated by urban sprawl and environmental degradation. Research also indicated that climate change has increased the likelihood of multiple major typhoons making landfall in a single year, with projections suggesting that such events will become more frequent as global temperatures rise. The cumulative effects of these storms have led to significant humanitarian challenges, with millions displaced and ongoing needs for disaster preparedness and response strategies

The Disaster Risk Reduction in the Philippines (2019).¹⁶The socioeconomic impact assessment of Typhoon Agaton (also known as Megi) reveals significant repercussions for affected communities, particularly in terms of agriculture, infrastructure, and overall economic activity. Typhoon Agaton affected approximately 1.6 million individuals, displacing many and leading to a state of calamity in several regions. The disaster resulted in substantial loss of life and forced many families into evacuation centers. The combined damage from Typhoon Agaton was estimated at PHP 2.3 billion, primarily affecting infrastructure, housing, and agriculture. The agricultural sector suffered severely, with around 17,925 hectares of farmland damaged, leading to significant crop losses, particularly in rice production. Whereas, on the report of Manahan (2024)¹⁷ at ABS-CBN News, according to the Department of Education, Typhoon Kristine caused PHP 3.7 billion worth of damage to schools nationwide. This included severely damaged classrooms requiring major repairs,

which disrupted education for millions of students and posed challenges for teachers and staff. Based on the agency's estimates, infrastructure damage in schools already reached P3.7 billion – P2.9 billion of which were needed for reconstruction and P737.5 million for major repairs. This includes replacement of damaged learning resources such as textbooks, learning tools, equipment, and computer packages, and additional Maintenance and Other Operating Expenses (MOOE) to its regional offices, Schools Division Offices (SDOs), and schools. Kristine and Severe Tropical Storm Leon have affected 1.79 million families or 7.13 million individuals in 10,181 barangays nationwide, with 125 people reported dead. More than 935,000 people have been displaced by the storms. While, Sadongdong (2024) 18 On his article at Manila Bulletin: Horror as 'Kristine' death toll tops 90; damage estimated at P2.2 billion. A resident clears his house of mud following heavy rains brought by Severe Tropical Storm Kristine in Kawit, Cavite on October 25, 2024. The reported death toll due to Severe Tropical Storm "Kristine" further increased to 90 while the combined damage to agriculture and infrastructure reached P2.2 billion, the Office of Civil Defense (OCD) said on Sunday, Oct. 27.

However, the situation is a little tricky as OCD Administrator, Undersecretary Ariel Nepomuceno said that only nine deaths have been validated so far while the others are still being confirmed by the Department of the Interior and Local Government's Management of the Dead and Missing (DILG-MDM) if they are indeed related to the storm. Most of the casualties were due to landslides as the soil became saturated due to non-stop rains that lasted for days and flooding. In Talisay City, Batangas alone, at least 19 people were buried alive due to a landslide caused by Kristine. In other areas, floodwaters have reached the second floor of many houses. "Typhoon," originating from the Chinese tai (strong) and fung (wind), is the term used to describe a tropical cyclone in the Western Pacific Ocean.

Tropical cyclones are developed in the northern hemisphere during the months of July– November in an area just north of the equator in a large area ranging from 130° to 180° East and 5° to 15° North. The Philippines is considered as one of the world's natural hazard "hot spots" and suffers more natural hazards like Earthquakes, volcanic eruptions, typhoons, floods, droughts and landslides than any other country, with an average of eight disasters per year. Each year about 20 typhoons, equivalent to 25% of the global occurrence of typhoons, occur in the Philippine Area of Responsibility. Most of the typhoons occur during rainy season (July until September). The data analysis of the typhoon events during 1880–1994 seem to indicate a slow shift towards the end of the year, that is, the number of typhoons in the rainy season seems to decrease overtime, while the number of typhoons which occur in December have increased. In the recent decade, the Philippines has experienced a number of intense and devastating TCs afflicting the country. Furthermore, the two tropical cyclones that caused major destructions in the country in the year 2020 are Typhoon Ulysses and Super Typhoon Rolly.

Typhon Ulysses is the most destructive tropical cyclone of 2020 that caused major destruction in the main island of Luzon by its destructive winds and dumping heavy rainfall that triggered massive flooding in several areas including Region II (Cagayan Valley), which was one of the most severely affected. The main cause of massive flooding was due to being the catch basin of rain water from Cagayan Valley and Cordillera Administrative Region, the opening of the floodgates of the nearby Magat Dam and previous tropical cyclones had also contributed to the situation. According to the official website of PAGASA, Super Typhoon Rolly had maximum sustained winds of 225 km/h and gustiness of up to km/h. Super typhoon Rolly brought heavier damages to the provinces of Albay and Catanduanes. Most of the affected areas are those nearer to water bodies, surrounded by mountains with few trees to absorbed huge amount of water and situated in the low-lying areas. In addition, Tan (2021)19 reveals the impact of typhoon to students' education, which hinder them to improve their academic performance, home living condition and safety.

This is a big challenge to parents, teachers and school administrators to find solution, looking at the effects without compromising the basic competencies the students ought to learn and the vision for quality of education. Most of the respondents are fearful each time a typhoon is coming. The horror of typhoon 'Haiyan' or Yolanda is still engraved in their young minds. That tragic day has always been on their minds that some of them still get teary-eyed whenever they are reminded of 'Haiyan'. 50% of children exposed to disasters showed posttraumatic stress symptoms after experiencing it like recurring thoughts of what happened, hypervigilance, and symptoms of anxiety such as fears and of their safety. According to Gray et al (2022),20 Low- and middle-income countries (LMICs) are expected to house an additional 2.7 billion people in urban centers by 2050 [87]. In this same period, residence in urban areas of the Philippines is expected to grow by almost 46%, accounting for 93.5 million Filipinos [20]. Despite being one of the most at-risk countries to disasters globally, ranked 9th in the 2020 World Risk Index, the determinants of typhoon mortality across the Philippines are not well understood, particularly at lower administrative levels and between rural and urban municipalities.

The results of the study sought to identify patterns of typhoon mortality and understand how typhoon mortality varies between rural and urban municipalities. The result was presented in two main sections. The first section analyses typhoon mortality distribution patterns in the Philippines relating to demographic characteristics, cause of death and level of

urbanization. The second section explores how typhoon mortality varies between rural and urban municipalities. In rural areas of the Philippines only 29% of people have never been poor, while in urban areas, including the National Capital Region (NCR), 76% have never been poor. Residents of urban municipalities tend to have greater access to institutional support networks and disaster preparation, such as improved early warning systems. In previous work in other national settings, previously identified that information and communication and civic engagement were lacking capacities in rural areas that led to disparities in disaster resilience. Although high population density can be viewed as a source of risk, studies have shown high density cities may be more hardened against tropical storms than rural areas. Manalo (2021)²¹ stated that the Philippines experiences multiple natural disasters each year, with typhoons being the most prevalent and damaging in terms of social and economic impact.

This paper aims to measure the effect of typhoons on critical dimensions of human development in the Philippines by exploiting the exogeneity and randomness of Typhoon Washi. Using a difference-in-differences approach, the paper examines both the long- and short-term effects of this particular typhoon on unemployment, primary education dropout and infant mortality in a region that has historically been free of typhoons. Results show a significant increase in unemployment over the long term, while primary education dropout showed a significant increase immediately after the typhoon. Although the effect on infant mortality increased in the short term and decreased in the long term, these estimates are not statistically significant. In terms gender-specific outcomes, I find that the effect on girls is higher than that of boys in education and health. Places directly hit by typhoons may sustain severe damages to school infrastructure, causing serious disruption to education.

But even when they are not damaged, schools can be converted into temporary shelters, which make accessing school for educational purposes physically impossible. Moreover, there are many other channels through which natural disasters can prevent a child from attending school, such as loss of family livelihood, health and nutrition. Since education is a normal good, its demand will decrease as a result of income reduction. Some people may not be able to recover their livelihoods and perhaps may have had their houses and belongings swept away by a typhoon. health care, education, etc.). Parents may no longer have the means to send their children to as a result, they may not have the means to obtain things necessary for life (food, water, shelter, school or they may need them to work in order to help the family generate additional income. In this case, they would have no choice but to take their children out of school-thereby increasing the dropout rates and decreasing total school enrollment among primary school children. However, one should not discount the possibility that children from nonpoor households can also drop out due to intra-household inequality.

Methodology:-

This study focuses on evaluating the Socio-Economic Impact of Typhoon Kristine Among College Students of The University of Saint Anthony specifically the College of Health Care Education in Iriga City Camarines Sur. The study employed a descriptive survey method, administered via Google Forms, to evaluate the socio-economic impact of Typhoon Kristine on students of the College of Health Care Education. A total of 267 respondents participated, representing 32% of the total student population of 797 across various year levels. The breakdown of the total population of nursing students by year level is as follows: First Year: 373 students; Second Year: 177 students; Third Year: 147 students and Fourth Year: 100 students.

Results:-

The participation rate of 32% indicates a significant engagement from the student body, which is essential for ensuring that the findings are representative of the overall population. The distribution of respondents across different year levels provides a comprehensive perspective on how Typhoon Kristine has impacted students at various stages of their academic journey. This diversity in responses allows for a more nuanced understanding of the socio-economic effects experienced by first-year students, who may be facing unique challenges as they transition into college life, compared to upperclassmen who may have different responsibilities and experiences. By including a broad range of year levels, the study can analyze trends and differences in socio-economic impacts based on academic progression. This demographic information is vital for tailoring interventions and support mechanisms that address the specific needs of each year level, ultimately contributing to more effective disaster preparedness and recovery strategies within the educational perspective.

TABLE 1
THE IMPACT OF TYPHOON KRISTINE ON THE RESPONDENTS

Impact of Typhoon Kristine	Percentage of Respondents (%)
Severely Affected (structural damages, losses to property)	64%
Slight Decrease in Family Income	55.4%
Significant Decline in Family Income	25.5%
Complete Loss of Income	3%
Unaffected by Financial Impact	17.2%

Table 1 shows the Impact of Typhoon Kristine on the Respondents. The survey results indicate a profound impact of Typhoon Kristine on the respondents, with 64% reporting severe effects characterized by structural damages and losses

survey results indicate a profound impact of Typhoon Kristine on the respondents, with 64% reporting severe effects characterized by structural damages and losses to personal property. This level of devastation suggests that many students are not only dealing with the immediate aftermath of the typhoon but also facing significant disruptions in their living conditions. The loss of essential items such as appliances, furniture, learning materials, and personal vehicles can greatly hinder students' ability to study effectively and maintain a stable home environment. This situation can lead to increased stress and anxiety, potentially affecting their academic performance and overall mental health. In addition to physical damages, the survey highlights notable economic repercussions. 55.4% of respondents experienced a slight decrease in family income, while 25.5% reported a significant decline. This indicates that many families are struggling to maintain their financial stability following the disaster, which could limit their ability to support their children's education. The fact that 3% suffered a complete loss of income is particularly concerning, as this group may face severe financial hardship, further exacerbating their challenges in accessing education and basic necessities. Conversely, 17.2% of respondents reported being unaffected financially, suggesting that a portion of the student population may have more stable circumstances or alternative support systems in place. This severe impact on personal property and financial stability highlights the urgent need for financial support programs tailored for affected students, such as scholarships and emergency funds, to alleviate immediate financial burdens. Additionally, addressing transportation issues is crucial to ensure consistent class attendance, which could involve partnerships with local transport providers.

Despite these challenges, a remarkable 92.5% of respondents expressed their intention to continue their studies, reflecting resilience and a commitment to education. This suggests that with appropriate support systems in place, students can overcome significant obstacles. Therefore, educational institutions should also focus on community engagement initiatives that foster a supportive environment for affected students, while long-term resilience planning should incorporate disaster preparedness training to ensure continuity of education during future emergencies.

TABLE 2
Financial and Logistical Challenges Faced by Respondents

Financial and Logistical Challenges	Percentage of Respondents (%)
Faced challenges in meeting financial obligations	60.3%

Used savings for educational fees and daily expenses	60.3%
Reported no transportation problems due to the typhoon	60.7%
Intend to continue studies in the upcoming semester	92.5%

Table 2 shows the Financial and Logistical Challenges Faced by Respondents The. Survey findings indicate that 60.3% of respondents faced difficulties in meeting financial obligations, leading them to utilize their savings for educational fees and daily living expenses, highlighting a precarious financial situation for many students. Additionally, 60.7% reported transportation issues due to the typhoon, which could hinder their ability to attend classes and access

essential services. Despite these challenges, an encouraging 92.5% expressed their intention to continue their studies in the upcoming semester, reflecting resilience and a commitment to education as a means of improving their socioeconomic circumstances in the long run. The educational institutions and local governments should establish financial aid programs tailored for students impacted by natural disasters, including scholarships, emergency funds, and tuition waivers to alleviate immediate financial burdens. Additionally, enhancing mental health services and counseling support is crucial to help students cope with the stress arising from financial difficulties and transportation challenges. Addressing transportation issues through partnerships with local providers or shuttle services can facilitate consistent class attendance. Community engagement initiatives can foster a supportive environment, while longterm resilience planning should incorporate disaster preparedness training and contingency plans to ensure continuity of education during future emergencies.

Discussion:-

1. The findings from the survey conducted on the socio-economic impact of Typhoon Kristine on students of the College of Health Care Education reveal significant distress among the respondents. A staggering 64% reported severe effects, including structural damage to their homes and loss of personal property, which underscores the typhoon's devastating impact on their living conditions. Additionally, the financial repercussions are notable, with 55.4% experiencing a slight decrease in family income and 25.5% facing a significant decline. These statistics highlight a concerning trend where natural disasters exacerbate existing vulnerabilities, particularly among students who may already be facing economic challenges. The data suggests that the typhoon not only disrupted physical infrastructure but also posed serious threats to the financial stability and educational pursuits of affected families. The socio-economic ramifications of Typhoon Kristine extend beyond immediate physical damage, affecting students' educational experiences and family livelihoods. The high percentage of respondents who reported severe impacts indicates a pressing need for targeted interventions to support recovery efforts in affected communities. Addressing these challenges is crucial to mitigate long-term repercussions on education and economic stability, emphasizing the importance of disaster preparedness and response strategies that prioritize vulnerable populations, particularly students. As climate change continues to increase the frequency and intensity of such natural disasters, proactive measures must be implemented to safeguard educational continuity and economic resilience in affected areas.

2. The survey findings reveal a complex interplay between the challenges posed by Typhoon Kristine and the resilience demonstrated by the students of the College of Health Care Education. With 60.3% of respondents struggling to meet financial obligations, many resorted to using their savings to cover essential expenses such as educational fees and daily living costs. This reliance on savings highlights the precarious financial situation many students find themselves in, particularly in the aftermath of a natural disaster. Additionally, 60.7% reported transportation issues, which further complicates their ability to attend classes and access necessary resources. These challenges not only threaten their immediate educational pursuits but also raise concerns about their long-term financial stability and academic success. Despite these significant adversities, the overwhelming determination expressed by 92.5% of respondents to continue their studies in the upcoming semester is both inspiring and indicative of their commitment to education. This resilience suggests that, while the impact of Typhoon Kristine has been profound, students are motivated to overcome obstacles in pursuit of their academic goals. In conclusion, these findings underscore the need for supportive measures from educational institutions and local authorities to assist affected students in navigating their financial challenges and ensuring they have access to transportation and resources necessary for their studies. By fostering an environment that

encourages resilience and provides practical support, stakeholders can help these students not only recover from the immediate impacts of the typhoon but also thrive in their educational journeys

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