JOURNAL OF INTERDISCIPLINARY PERSPECTIVES

ISSN Print: 2984-8288, ISSN Online: 2984-8385
Vol. 4 No. 1, pp. 46-56, January 2026

Original Article

From Risk to Recovery: A Systematic Literature Review of the Economics of Disasters in the Philippines

Allen Grace M. Sarmiento

Author Information:

College of Business Education and Accountancy, Bulacan State University, City of Malolos, Bulacan, Philippines

Correspondence:
sarmientoagm@gmail.com

Article History:

Date received: November 10, 2025
Date revised: November 27, 2025
Date accepted: December 9, 2025

Recommended citation:

Sarmiento, A. G. (2026). From risk to recovery: A systematic literature review of the economics of disasters in the Philippines. *Journal of Interdisciplinary Perspectives, 4*(1), 46-56. https://doi.org/10.69569/jip.2025.750

Abstract. This study systematically reviews the economics of disasters in the Philippines, synthesizing research from 2012 to 2023 to identify key themes and gaps in the literature on how recurring hazards affect economic outcomes. Using a structured literature search across leading academic databases, the review identifies 20 empirical studies on natural disasters, including typhoons, hydrometeorological, and geological events. The findings demonstrate that disasters have a substantial impact on national and local economies, notably through GDP losses, increased public spending, sector-specific disruptions, and the deepening of poverty, especially among vulnerable groups. Resilience and adaptive strategies, disaster financing, and recovery mechanisms emerge as critical themes in both the literature and policy recommendations. However, data fragmentation, particularly at the local level, and limited longitudinal analysis impede the development of targeted and inclusive interventions. The review stresses the need for more granular, region-specific studies and improved economic risk management in disaster-prone contexts. By integrating findings on direct and indirect impacts, from infrastructure losses to shifts in social welfare, the study provides actionable insights for researchers, practitioners, and policymakers seeking to enhance Philippine disaster resilience and socioeconomic recovery, including the piloting and empirical evaluation of risk-transfer mechanisms, such as microinsurance, in high-risk regions.

Keywords: *Disaster economics; Disaster financing; Poverty; Adaptation; Resilience; Systematic literature review.*

The Philippines is one of the most disaster-prone countries in the world. Located in the Pacific Ring of Fire and along the typhoon belt, it experiences frequent natural hazards, including typhoons, earthquakes, floods, and volcanic eruptions. According to the UN Office for Disaster Risk Reduction (2019), the country consistently ranks among the most disaster-vulnerable countries globally. These events not only cause loss of life and damage to infrastructure but also have profound and lasting economic consequences for livelihoods, productivity, and development.

Over the past decades, disasters have repeatedly disrupted economic growth in the Philippines. Typhoon Yolanda (Haiyan) in 2013, for example, caused an estimated $13 billion in damages and losses, severely affecting agriculture, fisheries, and local businesses (Resuello, 2020). In 2022, Typhoon Odette (Rai) caused widespread destruction in the Visayas and Mindanao regions, displacing hundreds of thousands (World Vision, 2022).

Earthquakes, such as the 2019 and 2025 series, and frequent flooding in urban centers such as Metro Manila further illustrate the country's chronic exposure to natural hazards. More recently, Super Typhoon Tino (Kalmaegi) in 2025 left over 204 people dead and devastated communities (Dumalag, 2025).

Several studies have examined the economic impacts of disasters in the Philippines, focusing on areas such as disaster financing, public spending, and local economic resilience (Jha et al., 2018; Capuno et al., 2024; Brucal et al., 2020). These works highlight the importance of preparedness, risk reduction, and post-disaster recovery mechanisms. However, much of the existing literature is fragmented, with limited synthesis across different types of disasters, economic sectors, and policy responses. There is also a lack of systematic analysis linking economic outcomes to disaster patterns over time. This paper addresses that gap by conducting a systematic literature review on the economics of disasters in the Philippines. It brings together findings from various studies to identify key themes, trends, and challenges. By organizing the literature into coherent clusters, such as disaster financing, economic vulnerability, and recovery strategies, this review aims to provide a clearer picture of how disasters shape economic realities in the country. It also highlights areas where policy and research can be strengthened.

One contribution of this paper is its focus on both direct and indirect economic effects of disasters. While many studies emphasize immediate losses, such as damage to infrastructure and crops, fewer explore the long-term impacts, including reduced investment, labor displacement, and changes in consumption patterns. This review integrates both perspectives to offer a more comprehensive understanding of disaster economics in the Philippine context. Another contribution is the identification of gaps in local-level economic data and analysis. Many studies rely on national statistics, which may overlook the region- and community-specific impacts. By highlighting the need for more granular data and localized studies, this paper encourages future research that can inform targeted interventions and inclusive recovery planning. Ultimately, this review aims to support policymakers, researchers, and practitioners in designing more effective economic strategies for disaster resilience. By synthesizing existing knowledge and identifying critical gaps, it lays the groundwork for more integrated, evidence-based approaches to managing the financial risks of disasters in the Philippines.

Methodology

This study employs a Systematic Literature Review (SLR) approach to investigate the economic aspects of disasters in the Philippines. The goal is to synthesize existing research, identify key themes, and highlight gaps in the literature. A systematic review was chosen to ensure transparency, replicability, and comprehensive coverage of relevant studies. To gather relevant literature, a structured search was conducted across major academic databases, including Scopus, Web of Science, Google Scholar, and ScienceDirect. The search utilized combinations of keywords, including "disaster economics," "Philippines," "natural hazards," "economic impact," "disaster recovery," and "resilience." Boolean operators (AND, OR) were applied to refine the results. The search was limited to peer-reviewed journal articles, conference papers, and institutional reports published between 2012 and 2023 to capture both historical and recent developments.

Studies were included if they:

- Focused on the Philippines or provided country-specific insights.
- Examined economic aspects of natural disasters (e.g., cost of damage, recovery spending, economic resilience).
- They were published in English.
- Provided empirical data, theoretical frameworks, or policy analysis.

Studies were excluded if they:

- Focused solely on environmental or social impacts without economic analysis.
- They were opinion pieces, editorials, or lacked methodological rigor.
- Discussed artificial disasters unrelated to natural hazards.

The initial search yielded over 358 documents. Titles and abstracts were screened for relevance, resulting in a reduced pool of 112 studies. Full-text reviews were then conducted, and many studies were excluded because they did not meet the criteria for an empirical economic focus. This rigorous filtering process ensured that only research directly addressing the economic dimensions of disasters was retained. Ultimately, 20 studies were selected for the final review, representing the most methodologically sound and contextually relevant contributions. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed to ensure a transparent selection process.

Each selected study was reviewed and coded based on:

- Type of disaster (e.g., typhoon, earthquake, flood).
- Economic focus (e.g., damage assessment, recovery cost, fiscal response).
- Methodology used (e.g., case study, econometric analysis, simulation).
- Key findings and policy implications.

The data were organized into thematic clusters to identify patterns and gaps. These clusters include disaster financing, economic vulnerability, recovery and reconstruction, and resilience strategies. To ensure reliability, each study was assessed for methodological quality. Criteria included the clarity of the research design, the robustness of the data, and its relevance to the Philippine context. Studies with weak or unclear methods were noted but not excluded if they offered valuable insights. While the review aimed for comprehensive coverage, some limitations remain. Relevant studies published in local journals or non-indexed sources may have been missed. Also, the review focused on natural disasters, excluding economic analyses of pandemics or conflict-related events. These limitations are acknowledged and addressed in the discussion section.

Results and Discussion

Profile of Selected Studies on Disaster Economics

Table 1. *Profile of Selected Studies on Disaster Economics*

Authors and Studies	Type Of Disaster	Economic Focus	Methodology
Bringas, B., Bunyi, L. J., & Manapat, C. (2022). An analysis on the impact of natural disasters on the economy of the Philippines.	Natural Disasters	General Economic Impact	Empirical Analysis
Jha, S., Martinez, A., Quising, P., Ardaniel, Z., & Wang, L. (2018). Natural disasters, public spending, and creative destruction: A case study of the Philippines.	Natural Disasters	Public Spending and Creative Destruction	Case Study
Enerlan, G. (2023). An analysis on the economic resilience and vulnerability of local economies in the Philippines to hydrometeorological disasters.	Hydrometeorological Disasters	Economic Resilience and Vulnerability of Local Economies	Analytical Assessment
Yonson, R., Noy, I., & Gaillard, J. (2017). The measurement of disaster risk: An example from tropical cyclones in the Philippines.	Tropical Cyclones	Measurement of Disaster Risk	Risk Modeling
Olsson, C. (2023). An analysis of the economic costs of natural disasters in the Philippines -Does the natural disaster type matter?	Natural Disasters	Economic Costs by Disaster Type	Comparative Economic Analysis
Walsh, B., & Hallegatte, S. (2020). Measuring natural risks in the Philippines: Socioeconomic resilience and wellbeing losses.	Natural Disasters	Socioeconomic Resilience and Wellbeing Losses	Quantitative Modeling
Yonson, R., & Noy, I. (2019). Disaster risk management policies and the measurement of resilience for Philippine regions.	Natural Disasters	Disaster Risk Management Policies and Regional Resilience Measurement	Policy Analysis
Resuello, M. D. (2020). Building disaster resilient local economy: The case of the Philippines.	Natural Disasters	Local Economic Resilience	Case Study
Cunanan, T. A. R., Lagasca, E. F., Noriega, C. J., & Cabauatan, R. (2022). Damages caused by natural disasters and the number of natural calamities' effect on Philippine government's spending on disaster management.	Natural Disasters	Government Disaster Spending	Quantitative Data Analysis
Santos, A., Membrebe, Z., & Ancheta, A. (2020). Economic resiliency model for disaster mitigation in floating barangays of Malolos City, Bulacan, Philippines.	Natural Disasters	Economic Resilience for Disaster Mitigation	Modeling
Mina, C., & Cruz, L. (2021). Economic implications of disasters on cooperative sector in CALABARZON, Philippines.	Natural Disasters	Economic Implications on Cooperative Sector	Sectoral Analysis
Villano, R., Magcale-Macandog, D., Acosta, L., Thanh, T., Eugenio, E., & Beatrice, P. (2020). Measuring disaster resilience in the Philippines: Evidence using network data envelopment analysis.	Natural Disasters	Measurement of Disaster Resilience	Network Data Envelopment Analysis

Skoufias, E., Kawasoe, Y., Strobl, E., & Acosta, P. (2020). Identifying the vulnerable to poverty from natural disasters: The case of typhoons in the Philippines.	Typhoons	Vulnerability to Poverty from Disasters	Case Study
Israel, D., & Briones, R. (2012). Impacts of natural disasters on agriculture, food security, and natural resources and environment in the Philippines.	Natural Disasters	Agriculture, Food Security, Natural Resources	Impact Assessment
Moreno, F., & Sulasula, J. (2024). An economic analysis of state of emergency after catastrophe in the Zamboanga Peninsula Region, Philippines	Natural Disasters	State of Emergency Economic Analysis	Regional Economic Analysis
Villacin, D. (2017). A review of Philippine government disaster financing for recovery and reconstruction.	Natural Disasters	Disaster Financing for Recovery and Reconstruction	Financial Review
Chong, R. M., Tangunan, D., Toyado, D., & Elegado, A. F. (2025). Evolving disaster resilience in the Philippines: Insights from the 2021 and 2023 World Risk Poll on socio-economic, regional, and systemic factors.	Natural Disasters	Socio-Economic, Regional, Systemic Factors in Resilience	Poll Analysis
Sakai, Y., Estudillo, J., Fuwa, N., Higuchi, Y., & Sawada, Y. (2017). Do natural disasters affect the poor disproportionately? Price change and welfare impact in the aftermath of Typhoon Milenyo in the rural Philippines.	Typhoons	Price Change, Welfare Impact, Poverty	Welfare Impact Analysis
Porteria, A. (2015). Making money out of people's misery: Has disaster capitalism taken over post-Haiyan Philippines?	Typhoons	Disaster Capitalism	Critical Review
Espaldon, M. V., Acosta-Michlik, L., Macandog, D. M., Asuero, M. P., Nelson, G. L. M., Lalican, N. M., & Talubo, J. P. (2019). Social characteristics and vulnerabilities of disaster-prone communities in Infanta, Quezon, Philippines.	Natural Disasters	Social Characteristics, Vulnerability	Sociological Analysis

Type of Disaster

Most of the reviewed studies focus on natural disasters in general, including typhoons, floods, and earthquakes. These broad categorizations allow researchers to assess overall economic impacts across multiple hazard types. For example, Bringas et al. (2022) and Olsson (2023) analyze the general economic consequences of natural disasters without isolating specific events, providing a broad perspective on national vulnerability. Several studies also explore disaster trends over time, such as Moreno and Sulasula (2024), who examine economic responses during states of emergency in the Zamboanga Peninsula.

Some papers narrow their scope to specific disaster types, especially typhoons and hydrometeorological hazards, which are common in the Philippines. Yonson et al. (2017) and Skoufias et al. (2020) focus on tropical cyclones and their impact on risk and poverty, while Enerlan (2023) examines the effects of hydrometeorological disasters on local economies. Sakai et al. (2017) and Porteria (2015) also focus on typhoons, emphasizing the welfare impacts and the role of post-disaster capitalism. This targeted approach helps reveal how different hazards produce distinct economic outcomes.

Economic Focus

The economic focus of the literature varies widely, but several key themes emerge. Numerous studies have examined economic resilience and vulnerability, particularly at the local level. Enerlan (2023), Resuello (2020), and Santos et al. (2020) explore how communities and barangays respond economically to disasters, emphasizing the importance of adaptive strategies. Other studies, such as Walsh and Hallegatte (2020), assess socioeconomic resilience and the loss of well-being, demonstrating that disasters affect not only income but also overall quality of life.

Another central theme is government spending and disaster financing. Jha et al. (2018) and Cunanan et al. (2022) analyze how public funds are allocated before and after disasters, while Villacin (2017) reviews national recovery and reconstruction financing. Studies such as those by Israel and Briones (2012) focus on sectoral impacts, particularly in agriculture and food security, whereas Mina and Cruz (2021) examine how disasters affect cooperatives in CALABARZON. These varied focuses help build a more complete picture of how disasters ripple through different parts of the economy.

Methodology

The studies employ a combination of quantitative and qualitative methods, depending on their specific focus. Empirical and statistical approaches are commonly used, as evidenced by works such as Bringas et al. (2022), Walsh and Hallegatte (2020), and Cunanan et al. (2022), which employ data modeling and analysis to quantify economic losses and expenditures. Comparative and sectoral analyses, such as those by Olsson (2023) and Mina and Cruz (2021), also utilize financial data to compare the impacts across different disaster types or regions.

Other studies employ a case study or policy analysis approach, providing more in-depth insights into specific events or local contexts. Jha et al. (2018), Resuello (2020), and Skoufias et al. (2020) use case studies to explore creative destruction, local resilience, and poverty vulnerability. Meanwhile, Yonson and Noy (2019) and Villacin (2017) apply policy analysis to evaluate disaster risk management and financing strategies. Modeling techniques, such as network data envelopment analysis (Villano et al., 2020) and welfare impact analysis (Sakai et al., 2017), add technical depth to the review.

Economic Disaster Measurement and Variables Related

Table 2. *Economic Disaster Measurement and Variables Related*

Authors and Studies	Parameters Used in Measuring Disasters	Variables Related to Disasters
Bringas, B., Bunyi, L. J., & Manapat, C. (2022). An analysis on the impact of natural disasters on the economy of the Philippines.	Economic Losses, GDP Impact, Sectoral Output Disruption	Disaster Frequency, Economic Performance
Jha, S., Martinez, A., Quising, P., Ardaniel, Z., & Wang, L. (2018). Natural disasters, public spending, and creative destruction: A case study of the Philippines.	Public Spending, Infrastructure Damage, Creative Destruction	Disaster Incidence, Government Expenditure
Enerlan, G. (2023). An analysis on the economic resilience and vulnerability of local economies in the Philippines to hydrometeorological disasters.	Economic Resilience Index, Vulnerability Scores	Hydrometeorological Event Counts
Yonson, R., Noy, I., & Gaillard, J. (2017). The measurement of disaster risk: An example from tropical cyclones in the Philippines.	Risk Models, Cyclonic Event Records, Economic Damage Estimates	Tropical Cyclone Frequency, Risk Exposure
Olsson, C. (2023). An analysis of the economic costs of natural disasters in the Philippines - Does the natural disaster type matter?	Disaster Type-Specific Cost Analysis, Economic Loss Comparisons	Event Type, Direct and Indirect Losses
Walsh, B., & Hallegatte, S. (2020). Measuring natural risks in the Philippines: Socioeconomic resilience and wellbeing losses.	Socioeconomic Resilience, Wellbeing Loss, Risk Scores	Natural Hazard Intensity, Wellbeing Indicators
Yonson, R., & Noy, I. (2019). Disaster risk management policies and the measurement of resilience for Philippine regions.	Regional Resilience, Policy Evaluation, Disaster Impact	Policy Reception, Regional Exposure
Resuello, M. D. (2020). Building disaster resilient local economy: The case of the Philippines.	Local Economy Indicators, Community Resilience Framework	Community Preparedness, Recovery Speed
Cunanan, T. A. R., Lagasca, E. F., Noriega, C. J., & Cabauatan, R. (2022). Damages caused by natural disasters and the number of natural calamities' effect on Philippine government's spending on disaster management.	Damage Assessments, Calamity Counts, Budget Allocation	Number of Calamities, Disaster Management Spending
Santos, A., Membrebe, Z., & Ancheta, A. (2020). Economic resiliency model for disaster mitigation in floating barangays of Malolos City, Bulacan, Philippines.	Economic Resiliency Modeling, Mitigation Behaviors	Barangay Vulnerability, Risk Mitigation Level
Mina, C., & Cruz, L. (2021). Economic implications of disasters on cooperative sector in CALABARZON, Philippines.	Cooperative Sector Output, Recovery Rates	Disaster Records, Sectoral Vulnerability
Villano, R., Magcale-Macandog, D., Acosta, L., Thanh, T., Eugenio, E., & Beatrice, P. (2020). Measuring disaster resilience in the Philippines: Evidence using network data envelopment analysis.	Network Data Envelopment Analysis, Resilience Scores	Disaster Response Capacity, Network Connectivity
Skoufias, E., Kawasoe, Y., Strobl, E., & Acosta, P. (2020). Identifying the vulnerable to poverty	Vulnerability Mapping, Poverty Outcomes	Typhoon Exposure, Poverty Risk

from natural disasters: The case of typhoons in the Philippines.		
Israel, D., & Briones, R. (2012). Impacts of natural disasters on agriculture, food security, and natural resources and environment in the Philippines.	Impacts on Agriculture/Food Security, Environmental Metrics	Agricultural Output,Food Insecurity
Moreno, F., & Sulasula, J. (2024). An economic analysis of state of emergency after catastrophe in the Zamboanga Peninsula Region, Philippines	State of Emergency Effects, Regional Economic Analysis	Catastrophe Episode, Region-Specific Indicators
Villacin, D. (2017). A review of Philippine government disaster financing for recovery and reconstruction.	Disaster Financing, Reconstruction Aid Evaluations	Funding Sources, Speed of Financial Recovery
Chong, R. M., Tangunan, D., Toyado, D., & Elegado, A. F. (2025). Evolving disaster resilience in the Philippines: Insights from the 2021 and 2023 World Risk Poll on socio-economic, regional, and systemic factors.	World Risk Poll Data, Systemic Resilience Metrics	Poll Indicators, Regional/Systemic Factors
Sakai, Y., Estudillo, J., Fuwa, N., Higuchi, Y., & Sawada, Y. (2017). Do natural disasters affect the poor disproportionately? Price change and welfare impact in the aftermath of Typhoon Milenyo in the rural Philippines.	Price Changes, Welfare Impact Estimation	Typhoon Event, Post-Disaster Welfare
Porteria, A. (2015). Making money out of people's misery: Has disaster capitalism taken over post-Haiyan Philippines?	Disaster Capitalism Critiques, Economic Opportunity Mapping	Post-Haiyan Context, Profit-Related Metrics
Espaldon, M. V., Acosta-Michlik, L., Macandog, D. M., Asuero, M. P., Nelson, G. L. M., Lalican, N. M., & Talubo, J. P. (2019). Social characteristics and vulnerabilities of disaster-prone communities in Infanta, Quezon, Philippines.	Social Vulnerability Surveys, Demographic Risk Analysis	Community Characteristics, Vulnerability Factor

Parameters Used in Measuring Disasters

The reviewed studies employ a diverse range of parameters to assess the economic and social impacts of disasters in the Philippines. Common indicators include financial losses, GDP impacts, and sectoral disruptions, as observed by Bringas et al. (2022), who examine the effects of disasters on overall economic performance. Similarly, Olsson (2023) compares costs across different disaster types, helping to understand which hazards are most economically damaging. These parameters provide a foundation for quantifying the effects of disasters in monetary terms.

Other studies go beyond direct financial losses and include resilience scores, risk models, and well-being indicators. For instance, Walsh and Hallegatte (2020) utilize socioeconomic resilience and well-being loss to capture broader impacts on communities, while Yonson et al. (2017) employ cyclone event records and risk modeling to estimate exposure and damage. Santos et al. (2020) and Villano et al. (2020) also introduce resiliency frameworks and network analysis to evaluate how well local economies can withstand and recover from disasters. These multidimensional parameters help paint a fuller picture of the consequences of disasters.

Variables Related to Disasters

The studies also identify several key variables associated with disaster occurrence and impact. One standard variable is disaster frequency or incidence, as used by Bringas et al. (2022) and Jha et al. (2018) to link the number of events with economic outcomes, such as GDP decline or increased government spending. Enerlan (2023) focuses on hydrometeorological event counts, while Yonson et al. (2017) track tropical cyclone frequency to assess risk exposure. These variables help establish patterns and trends over time.

Other variables reflect community vulnerability, policy response, and sectoral sensitivity. For example, Cunanan et al. (2022) examine how the number of calamities affects disaster management spending, while Santos et al. (2020) assess barangay-level vulnerability and mitigation efforts. Mina and Cruz (2021) employ sectoral vulnerability to examine the cooperative sector, while Espaldon et al. (2019) investigate social characteristics that influence disaster risk. These variables indicate that disaster impacts extend beyond the hazard itself to encompass community exposure and preparedness levels.

Summary of Selected Studies

Table 3. *Summary of Selected Studies*

Authors and Studies	Objective	Findings	Suggestions for Future Work
Bringas, B., Bunyi, L. J., & Manapat, C. (2022). An analysis on the impact of natural disasters on the economy of the Philippines.	Assess the impact of natural disasters on the Philippine economy.	Natural disasters have significant adverse effects on GDP and the broader economy.	Broader Sectoral Analysis, Longitudinal Study
Jha, S., Martinez, A., Quising, P., Ardaniel, Z., & Wang, L. (2018). Natural disasters, public spending, and creative destruction: A case study of the Philippines.	Examine the effects of disasters on public spending and creative destruction.	Disasters trigger increased government spending and stimulate reconstruction.	Assessment of Long-Term Public Finance
Enerlan, G. (2023). An analysis on the economic resilience and vulnerability of local economies in the Philippines to hydrometeorological disasters.	Analyze the economic resilience and vulnerability of local economies.	Local economies vary in resilience; Hydrometeorological events increase risk.	Comparative Studies Across Regions
Yonson, R., Noy, I., & Gaillard, J. (2017). The measurement of disaster risk: An example from tropical cyclones in the Philippines.	Measure disaster risk from tropical cyclones.	Cyclone risk is highest in coastal areas; economic damage is substantial.	Integrate New Risk Modeling Approaches
Olsson, C. (2023). An analysis of the economic costs of natural disasters in the Philippines - Does the natural disaster type matter?	Compare economic costs by type of natural disaster.	Economic losses differ by disaster type; Certain disasters have a costlier impact.	Multi-Country Comparison, Cost-Benefit Analysis
Walsh, B., & Hallegatte, S. (2020). Measuring natural risks in the Philippines: Socioeconomic resilience and wellbeing losses.	Measure socioeconomic resilience and well-being losses.	Resilience varies with social indicators; Disasters reduce overall well-being.	Expand to Other Natural Risks, Improve Metrics
Yonson, R., & Noy, I. (2019). Disaster risk management policies and the measurement of resilience for Philippine regions.	Assess policy and resilience across Philippine regions.	Higher resilience is associated with more effective policy responses.	Policy Benchmarking, Regional Longitudinal Study
Resuello, M. D. (2020). Building disaster resilient local economy: The case of the Philippines.	Explore the local economy's disaster resilience.	Strong community networks speed recovery after disasters.	Study the Role of Local Governance and Planning
Cunanan, T. A. R., Lagasca, E. F., Noriega, C. J., & Cabauatan, R. (2022). Damages caused by natural disasters and the number of natural calamities' effect on Philippine government's spending on disaster management.	Analyze the effect of disasters on government disaster management spending.	More frequent calamities lead to increased government spending.	Forecasting Disaster Budget Needs
Santos, A., Membrebe, Z., & Ancheta, A. (2020). Economic resiliency model for disaster mitigation in floating barangays of Malolos City, Bulacan, Philippines.	Model resiliency for disaster mitigation in floating barangays.	Barangay-level resiliency can be improved through targeted interventions.	Extend Model to Other Barangay Types
Mina, C., & Cruz, L. (2021). Economic implications of disasters on cooperative sector in CALABARZON, Philippines.	Assess the economic impact of disasters on the cooperative sector.	The cooperative sector struggles post-disaster, especially in CALABARZON.	Focus on Resilience Policies for Cooperatives
Villano, R., Magcale-Macandog, D., Acosta, L., Thanh, T., Eugenio, E., & Beatrice, P. (2020). Measuring disaster resilience in the Philippines: Evidence using network data envelopment analysis.	Use network data envelopment analysis to measure disaster resilience.	Network analysis provides evidence of spatial clustering in disaster risk.	Further Refinement of Network Metrics
Skoufias, E., Kawasoe, Y., Strobl, E., & Acosta, P. (2020). Identifying the vulnerable to poverty from natural disasters: The case of typhoons in the Philippines.	Identify the vulnerable to poverty post-typhoon.	People on low incomes are most vulnerable after typhoons; targeted support is needed.	More Granular Mapping, Targeted Interventions
Israel, D., & Briones, R. (2012). Impacts of natural disasters on agriculture, food security, and natural resources and environment in the Philippines.	Evaluate the impacts of disasters on agriculture and food security.	Disasters reduce agricultural output and threaten food security.	Development of Agricultural Recovery Strategies
Moreno, F., & Sulasula, J. (2024). An economic analysis of state of emergency after catastrophe in the Zamboanga Peninsula Region, Philippines	Economic analysis of state of emergency after catastrophe.	Emergency declaration leads to economic disruptions at the regional level.	Study the Impact of Policy on Post-catastrophe

Villacin, D. (2017). A review of Philippine government disaster financing for recovery and reconstruction.	Review disaster financing for recovery and reconstruction.	Gaps in financing were identified; recovery was often delayed due to funding shortages.	Improve Disaster Financing Mechanisms
Chong, R. M., Tangunan, D., Toyado, D., & Elegado, A. F. (2025). Evolving disaster resilience in the Philippines: Insights from the 2021 and 2023 World Risk Poll on socio-economic, regional, and systemic factors.	Assess evolving disaster resilience using the World Risk Poll.	Poll reveals regional disparities and systemic risk factors.	Expand Survey Scope, Add New Resilience Factors
Sakai, Y., Estudillo, J., Fuwa, N., Higuchi, Y., & Sawada, Y. (2017). Do natural disasters affect the poor disproportionately? Price change and welfare impact in the aftermath of Typhoon Milenyo in the rural Philippines.	Analyze the impact of typhoons on price change and welfare.	Price shocks and welfare losses are most significant among poor rural households.	Extend Welfare Models to More Disaster Types
Porteria, A. (2015). Making money out of people's misery: Has disaster capitalism taken over post-Haiyan Philippines?	Critically review disaster capitalism post-Haiyan.	Considerable profit-making occurred during the Haiyan recovery period.	Study Regulatory Mechanisms to Discourage Abuse
Espaldon, M. V., Acosta-Michlik, L., Macandog, D. M., Asuero, M. P., Nelson, G. L. M., Lalican, N. M., & Talubo, J. P. (2019). Social characteristics and vulnerabilities of disaster-prone communities in Infanta, Quezon, Philippines.	Examine social vulnerabilities of disaster-prone communities.	Social characteristics influence vulnerability; Targeted interventions are necessary.	Develop Community-Specific Vulnerability Indices

Objectives

Most of the studies reviewed aim to examine how disasters affect various aspects of the Philippine economy. Several studies focus on measuring the economic impact of natural disasters, including GDP losses, sectoral disruptions, and public spending. For example, Bringas et al. (2022) assess the overall financial damage caused by disasters, whereas Jha et al. (2018) examine how disasters affect government spending and reconstruction efforts. Others, such as Olsson (2023), compare the costs of different disaster types to determine which ones are more economically damaging.

Some studies adopt a more focused approach, analyzing resilience, vulnerability, and policy responses. Enerlan (2023) examines how local economies respond to hydrometeorological events, while Santos et al. (2020) develop a resilience model for floating barangays. Meanwhile, Walsh and Hallegatte (2020) and Yonson and Noy (2019) aim to measure the losses in resilience and well-being across regions. These objectives reflect a growing interest in understanding not just the damage, but also how communities and systems cope and recover.

Findings

The findings suggest that disasters have a significant economic impact in the Philippines. Many studies report significant GDP losses, increased public spending, and sectoral disruptions. Bringas et al. (2022) confirm that natural disasters negatively affect economic performance, while Cunanan et al. (2022) find that more frequent calamities lead to higher government spending. Olsson (2023) highlights that certain disaster types, such as typhoons, cause more damage than others. Moreno and Sulasula (2024) also note that emergency declarations can disrupt regional economies.

Other findings emphasize resilience and vulnerability. Enerlan (2023) finds that local economies vary in their ability to recover, while Skoufias et al. (2020) demonstrate that poor households are the most vulnerable to typhoon impacts. Santos et al. (2020) indicate that targeted interventions can improve barangay-level resilience. Walsh and Hallegatte (2020) reveal that disasters reduce overall well-being, especially in socially vulnerable communities. These insights underline the importance of tailored strategies for different regions and populations.

Suggestions for Future Work

Many studies suggest expanding the scope of analysis to enhance understanding and inform policy responses. Bringas et al. (2022) recommend broader sectoral analysis and longitudinal studies, while Jha et al. (2018) call for long-term assessments of public finance. Olsson (2023) proposes multi-country comparisons and cost-benefit

analyses to evaluate disaster impacts more effectively. Similarly, Yonson et al. (2017) and Villano et al. (2020 suggest refining risk modeling and network metrics to improve disaster measurement.

Other suggestions focus on policy development and community-level research. Resuello (2020) and Santos et al. (2020 emphasize the need to study local governance and planning. Skoufias et al. (2020) and Espaldon et al. (2019 recommend more granular mapping and vulnerability indices to guide targeted interventions. Villacin (2017) advocates for improvements in disaster financing mechanisms, while Porteria (2015) recommends regulatory oversight to prevent exploitation during the recovery process. These recommendations highlight the need for more inclusive, data-driven, and region-specific disaster strategies.

Disaster Financing and Insurance Mechanisms

Disaster financing plays a crucial role in how governments and communities respond to and recover from natural hazards. Several studies highlight the increasing pressure on public finances due to the frequency and intensity of disasters in the Philippines. For instance, Jha et al. (2018) found that disasters often lead to spikes in government spending, particularly for reconstruction and emergency relief. Similarly, Cunanan et al. (2022) observed that the number of catastrophes directly influences the amount allocated to disaster management, suggesting a reactive rather than proactive budgeting approach.

However, gaps in financing mechanisms remain a significant concern. Villacin (2017) noted that delays in fund disbursement and limited access to recovery financing often slow down reconstruction efforts. This points to the need for more structured, anticipatory financial tools, such as prearranged insurance schemes or contingency funds. While some studies note the potential of risk-transfer mechanisms, such as catastrophe bonds or microinsurance, there is limited empirical research on their effectiveness in the Philippine context. Strengthening financial preparedness can help mitigate economic disruptions and expedite recovery timelines.

Economic Vulnerability and Poverty

Disasters disproportionately affect people with low incomes, deepening existing inequalities and making recovery more difficult for vulnerable groups. Skoufias et al. (2020) found that households already living in poverty are more likely to suffer long-term setbacks after typhoons, including income loss and reduced access to basic services. Similarly, Sakai et al. (2017) showed that price shocks and welfare losses are most severe among rural communities, where coping mechanisms are limited. These findings highlight the intersection between disaster risk and socioeconomic vulnerability.

Beyond individual households, entire sectors and regions show varying levels of economic fragility. Enerlan (2023) emphasized that local economies differ in their resilience, with some more exposed to hydrometeorological events than others. Mina and Cruz (2021) also noted that cooperatives in CALABARZON struggle to recover post-disaster, highlighting sector-specific vulnerabilities. These insights suggest that poverty and economic exposure are unevenly distributed, and that disaster risk reduction strategies must be tailored to the needs of the most at-risk populations and industries.

Post-Disaster Recovery and Reconstruction

The recovery phase is critical for restoring economic activity and rebuilding livelihoods, but it is often delayed and inefficient. Bringas et al. (2022) reported that natural disasters significantly disrupt GDP and sectoral output, requiring coordinated recovery efforts. Moreno and Sulasula (2024) found that declarations of a state of emergency can lead to economic disruptions at the regional level, especially when recovery planning is weak or underfunded. These findings underscore the importance of timely and well-managed reconstruction processes.

Community-level recovery also depends on local capacity and governance. Resuello (2020) highlighted that strong community networks and regional planning can expedite recovery, particularly in areas with limited national support. Santos et al. (2020) demonstrated that barangay-level resilience models can guide targeted interventions, particularly in vulnerable settings such as floating communities. These studies suggest that recovery is not just about rebuilding infrastructure; it also involves restoring social and economic systems to reduce future risk.

Resilience and Adaptive Strategies

Building resilience is a long-term investment that can help mitigate the economic impact of disasters. Walsh and Hallegatte (2020) emphasized that resilience varies across social groups and regions, with greater losses in well-

being in areas lacking basic services. Yonson and Noy (2019) found that effective disaster risk management policies are associated with higher regional resilience, suggesting that governance plays a crucial role in shaping outcomes. These findings support the idea that resilience is both a social and institutional process.

Several studies propose adaptive strategies to strengthen resilience at different levels. Villano et al. (2020) used network data envelopment analysis to identify spatial clusters of disaster risk, offering a tool for targeted planning. Chong et al. (2025) used World Risk Poll data to highlight systemic and regional factors that influence resilience, calling for more inclusive and data-driven approaches. Together, these studies demonstrate that resilience is not just about bouncing back; it is about adapting, learning, and preparing for future risks in more equitable and sustainable ways.

Conclusion

A synthesis of 20 empirical studies highlights the multifaceted economic impacts of disasters in the Philippines, ranging from direct losses in infrastructure and agriculture to indirect effects such as deepening poverty, reduced investment, and shifts in consumption patterns. While resilience strategies and adaptive mechanisms are increasingly emphasized in both academic and policy discourse, several critical gaps remain.

One notable gap is the limited empirical research on the effectiveness of prearranged insurance schemes and risk-transfer mechanisms. Although the literature acknowledges their potential to reduce vulnerability and stabilize household and community recovery, few studies provide concrete evidence of how these instruments function in practice within the Philippine context. The absence of empirical evaluation weakens policymakers' ability to design financially sustainable disaster risk management frameworks.

Based on this review, a key recommendation for future work is to pilot and empirically evaluate specific risk-transfer mechanisms, such as microinsurance, catastrophe bonds, or community-based insurance, in high-risk regions of the Philippines. Such initiatives would generate evidence on affordability, accessibility, and long-term effectiveness, thereby informing inclusive disaster financing strategies. Embedding these evaluations into national and local disaster risk reduction plans could help bridge the current gap between theoretical promise and practical implementation.

Furthermore, the discussion underscores the need for more granular, region-specific economic data to capture differentiated impacts across communities. Localized studies would allow policymakers to tailor interventions to the unique vulnerabilities of rural, coastal, and urban populations. Strengthening institutional capacity for data collection and integrating socioeconomic indicators into disaster monitoring systems would enhance both preparedness and recovery planning.

Ultimately, the review emphasizes the significance of integrating disaster economics with broader development objectives. Disasters not only disrupt short-term growth but also exacerbate structural inequalities. Policies that combine risk financing with social protection, livelihood diversification, and inclusive governance can ensure that resilience is not merely reactive but embedded in long-term development strategies.

Contributions of Authors

None.

Funding

None.

Conflict of Interests

None.

Acknowledgment

None.

References

Bringas, B., Bunyi, L. J., & Manapat, C. (2022). An analysis of the impact of natural disasters on the economy of the Philippines. Journal of Economics, Finance and Accounting Studies, 4(1), 163–183. https://doi.org/10.32996/jefas.2022.4.1.11

Brucal, A., Roezer, V., Dookie, D., Byrnes, R., Ravago, M.-L., Cruz, F., & Narisma, G. (2020). Disaster impacts and financing: Local insights from the Philippines. https://tinyurl.com/yem4wbz9

Capuno, J., Corpuz, J., & Lordemus, S. (2024). Natural disasters and local government finance: Evidence from Typhoon Haiyan. Journal of Economic Behavior & Organization, 220, 869–887. https://doi.org/10.1016/j.jebo.2024.03.007
Chong, R. M., Tangunan, D., Toyado, D., & Elegado, A. F. (2025). Evolving disaster resilience in the Philippines: Insights from the 2021 and 2023 World Risk Poll on socio-economic, regional, and systemic factors. International Journal of Disaster Risk Reduction, 121, 105415. https://doi.org/10.1016/j.ijdrr.2025.105415
Cunanan, T. A. R., Lagasca, E. F., Noriega, C. J., & Cabauatan, R. (2022). Damages caused by natural disasters and the number of natural calamities' effect on the Philippine government's spending on disaster management. Malaysian Journal of Social Sciences and Humanities (MJSSH), 7(2), e001284. https://doi.org/10.47405/mjssh.v7i2.1284
Dumalag, G. (2025, November). Typhoon Tino's death toll rises to 204. INQUIRER.NET. https://l1nq.com/CYZ1b
Enerlan, G. (2023). An analysis of the economic resilience and vulnerability of local economies in the Philippines to hydrometeorological disasters. International Journal of Disaster Risk Reduction, 84, 103447. https://doi.org/10.1016/j.ijdrr.2022.103447
Espaldon, M. V., Acosta-Michlik, L., Macandog, D. M., Asuero, M. P., Nelson, G. L. M., Lalican, N. M., & Talubo, J. P. (2019). Social characteristics and vulnerabilities of disaster-prone communities in Infanta, Quezon, Philippines. Asia-Pacific Network for Global Change Research. https://tinyurl.com/ys3zcv9z
Israel, D., & Briones, R. (2012). Impacts of natural disasters on agriculture, food security, and the environment in the Philippines. Econstor. https://www.econstor.eu/handle/10419/126912
Jha, S., Martinez, A., Quising, P., Ardaniel, Z., & Wang, L. (2018). Natural disasters, public spending, and creative destruction: A case study of the Philippines. Econstor. https://www.econstor.eu/handle/10419/190238
Mina, C., & Cruz, L. (2021). Economic implications of disasters on the cooperative sector in CALABARZON, Philippines. Journal of Economics, Management & Agricultural Development, 7(1), 72–88. https://doi.org/10.22004/ag.econ.323953
Moreno, F., & Sulasula, J. (2024). An economic analysis of the state of emergency after a catastrophe in the Zamboanga Peninsula Region, Philippines. Munich Personal RePEc Archive. https://tinyurl.com/cvayxa9s
Olsson, C. (2023). An analysis of the economic costs of natural disasters in the Philippines - Does the natural disaster type matter? https://tinyurl.com/yy6nk4vm
Porteria, A. (2015). Making money out of people's misery: Has disaster capitalism taken over post-Haiyan Philippines? Philippine Sociological Review, 63, 179–206. https://www.jstor.org/stable/24717192
Resuello, M. D. (2020). Building disaster resilient local economy: The case of the Philippines. Journal of Public Administration and Governance, 10(4), 179. https://doi.org/10.5296/jpag.v10i4.17752
Sakai, Y., Estudillo, J., Fuwa, N., Higuchi, Y., & Sawada, Y. (2017). Do natural disasters affect the poor disproportionately? Price change and welfare impact in the aftermath of Typhoon Milenyo in the rural Philippines. World Development, 94, 16–26. https://doi.org/10.1016/j.worlddev.2016.12.036
Santos, A., Membrebe, Z., & Ancheta, A. (2020). Economic resiliency model for disaster mitigation in floating barangays of Malolos City, Bulacan, Philippines. https://tinyurl.com/4f6vcvr6
Skoufias, E., Kawasoe, Y., Strobl, E., & Acosta, P. (2020). Identifying the vulnerable to poverty from natural disasters: The case of typhoons in the Philippines. Economics of Disasters and Climate Change, 4. https://doi.org/10.1007/s41885-020-00059-y
UN Office for Disaster Risk Reduction. (2019). Disaster risk reduction in the Philippines. UNDRR. https://tinyurl.com/y64778ax
Villacin, D. (2017). A review of the Philippine government's disaster financing for recovery and reconstruction. ECONSTOR. https://www.econstor.eu/handle/10419/173598
Villano, R., Magcale-Macandog, D., Acosta, L., Thanh, T., Eugenio, E., & Beatrice, P. (2020). Measuring disaster resilience in the Philippines: Evidence from network data envelopment analysis. Climate and Development, 12(1), 67–79. https://doi.org/10.1080/17565529.2019.1599317
Walsh, B., & Hallegatte, S. (2020). Measuring natural risks in the Philippines: Socioeconomic resilience and wellbeing losses. Economics of Disasters and Climate Change, 4. https://doi.org/10.1007/s41885-019-00047-x
World Vision. (2022, January 3). Aid is coming to 10,000 typhoon-hit families. World Vision Philippines. https://tinyurl.com/y4yuh7b6
Yonson, R., & Noy, I. (2019). Disaster risk management policies and the measurement of resilience for Philippine regions. Risk Analysis. https://doi.org/10.1111/risa.13394
Yonson, R., Noy, I., & Gaillard, J. (2017). The measurement of disaster risk: An example from tropical cyclones in the Philippines. Review of Development Economics, 22(2), 736–765. https://doi.org/10.1111/rode.12365