

An Analysis of the Impact of Flash Floods on the Economic Welfare of the Community in Batang Toru From the Perspective of Maqasid Sharia

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Abstract

*This study analyzes the factors causing landslides and flash floods and their impact on the economic well-being of communities in Batang Toru District, South Tapanuli Regency, from the perspective of Maqasid Sharia. It was prompted by the flash flood disaster of 25 November 2025, which resulted in fatalities, infrastructure damage, loss of productive assets, and disruption of social-economic activities. This qualitative field research collected data through in-depth interviews, observation, and documentation involving the village head, the Regional Disaster Management Agency (BPBD), and affected residents, analyzed using the Miles, Huberman, and Saldaña interactive model. The findings show that the disaster was caused by the interaction of extreme rainfall, steep topography, the overflow of the Batang Toru River, land-use change, and river sedimentation. The disaster significantly affected economic well-being through damaged farmland, lost productive assets, halted economic activity, declining household income, heightened health risks, and disrupted children's education. From the Maqasid Sharia perspective, these impacts touch all five essential objectives of sharia: *hifz al-din*, *hifz al-nafs*, *hifz al-'aql*, *hifz al-nasl*, and *hifz al-mal*. Mitigation, emergency response, and rehabilitation efforts by the government, BPBD, and the community reflect the implementation of Maqasid Sharia values, although economic recovery still requires strengthening through environmental-conservation-based mitigation policy and post-disaster economic empowerment programs.*

INTRODUCTION

Disasters are phenomena that cannot be separated from human life, particularly in countries with complex geographical and geological conditions such as Indonesia. Law Number 24 of 2007 defines a disaster as an event that threatens and disrupts the lives of communities, caused by natural, non-natural, or human factors, resulting in loss of life, environmental damage, property losses, and psychological impacts. This definition emphasizes that disasters are not always purely natural in nature, but may also be triggered or exacerbated by human activities, and therefore their management requires a comprehensive approach.

North Sumatra Province, with its mountainous and hilly landscapes, extensive river basins, and tropical climate characterized by high rainfall intensity, has a significant level of vulnerability to hydrometeorological disasters. One of the areas with a high disaster risk is Batang Toru, which encompasses areas of South Tapanuli, Central Tapanuli, and North Tapanuli Regencies, characterized by steep mountainous slopes, relatively unstable soil structures, and traversed by the Batang Toru River Basin (DAS) as its main hydrological system.

On November 25, 2025, Batang Toru District was hit by flash floods and landslides triggered by extreme rainfall over several days, causing the Garoga River and Batuhoring River to

overflow. Data from the National Agency for Disaster Management (BNPB) and the Meteorology, Climatology, and Geophysical Agency (BMKG) recorded rainfall reaching 390 mm per day on November 27, 2025, one of the highest levels recorded in the past six years. The Regional Disaster Management Agency (BPBD) of South Tapanuli Regency recorded 51 fatalities, 1 person still reported missing, 49 people seriously injured, and 5,366 people displaced. The damage included 1,354 houses, 4 sections of roads that were cut off, 51 school buildings, 499 hectares of agricultural and plantation land, clean water facilities (SPAM Garoga and Aek Ngadol), electricity and telecommunications networks, as well as 85 livestock swept away.

Table 1. Impact of the Batang Toru Flash Flood in 2025

Aspek Dampak	Kondisi
Fatalities	51 orang
Missing Persons	1 orang
Seriously Injured	49 orang
Displaced Persons	5.366 jiwa
Damaged/Swept Away/Buried Houses	1.354 unit
Road Sections Cut Off	4 titik
Damaged School Buildings	51 unit
Damaged Agricultural/Plantation Land	499 hektare
Livestock Swept Away	85 ekor

Source: Processed by the Author based on data from the Regional Disaster Management Agency of South Tapanuli Regency (2025)

This disaster is not entirely natural in nature. Findings by the Indonesian Forum for the Environment (Wahana Lingkungan Hidup Indonesia/WALHI) of North Sumatra (2025) indicate that approximately seven large companies are suspected of converting $\pm 10,795$ hectares of forest in the upstream area of the Batang Toru River Basin, while the Ministry of Environment and Forestry recorded changes in forest cover to non-forest areas covering $\pm 28,900$ hectares during the 2019–2024 period. This condition reinforces indications of substantial ecological pressure resulting from the interaction between natural factors and human activities.

In the context of the Batang Toru community, which is predominantly Muslim, the Maqasid al-Shariah approach provides a relevant analytical framework. According to Imam Al-Shatibi in *Al-Muwafaqat*, the primary objective of Sharia is to realize benefit (*maslahah*) and prevent harm (*mafsadah*) through the protection of the five essential elements of life (*al-kulliyat al-khams*): religion (*hifz al-din*), life (*hifz al-nafs*), intellect (*hifz al-'aql*), lineage (*hifz al-nasl*), and property (*hifz al-mal*). Ibn Ashur expanded this concept by emphasizing social justice and the sustainability of human life. The destruction of houses, loss of livelihoods, and damage to agricultural land caused by flash floods in Batang Toru indicate disruptions to these objectives, particularly *hifz al-nafs* and *hifz al-mal*.

Several recent studies reinforce the urgency of situating flash-flood impacts within an economic-welfare and Maqasid Shariah lens. Kawasaki, Kawamura, and Zin (2020) and Khayyam (2020) both demonstrate that flood-affected households in South and Southeast Asia experience compounding declines in income, assets, and food security that persist well beyond the emergency-

response period, while Nasta (2026) shows a comparable pattern in a Sumatran farming community following a flash flood, in which food security and livelihood adaptation were the most affected dimensions. Sun and Faas (2018) further argue that disasters should be understood not merely as natural events but as social constructs shaped by land-use decisions and institutional capacity, a perspective consistent with the anthropogenic factors identified in Batang Toru. On the Maqasid Shariah side, Ahmad and Zulkifli (2021), Ahmad, Kamal, and Malik (2022), and Abdullah (2023) have extended the al-dharuriyyat al-khams framework into empirical welfare and poverty measurement, while Sulistyowati (2019), Muhdlor (2022), Miah (2021), and Rahmat et al. (2025) document how zakat, waqf, and sadaqah function as disaster-recovery instruments in Indonesia and beyond. However, studies that explicitly connect flash-flood economic impacts with the Maqasid Shariah framework within a single case remain limited, which is the gap this research addresses.

The novelty of this research lies in the use of the Maqasid Shariah perspective as an analytical framework for examining the impact of disasters on the economic welfare of the community, linking aspects of disaster, economic welfare, and Islamic economic principles within a single analytical framework in the case study of Batang Toru District. Based on the foregoing description, the research questions are: (1) what are the factors causing landslides and flash floods in Batang Toru District; (2) what are their impacts on the employment and income of the community; and (3) what anticipatory measures can be undertaken from the perspective of Maqasid Shariah? This research aims to analyze these three aspects in depth, with benefits for the formulation of government disaster mitigation policies, strengthening community understanding of post-disaster property management in accordance with Sharia principles, and providing theoretical and methodological contributions to the development of Islamic economics, disaster management, and community welfare studies.

METHODS

This study employs a qualitative approach with a field research design, aiming to gain an in-depth understanding of the impact of flash floods on the economic welfare of the community in Batang Toru District, South Tapanuli Regency, from the perspective of Maqasid Shariah. The research site was selected because the area was among those most severely affected by the flash floods and landslides on November 25, 2025.

Informants were selected using purposive sampling, namely individuals with knowledge, experience, and direct involvement in the disaster event. The study involved three informants: (1) the Head of Huta Godang Village as a key informant who provided an overview of post-disaster response and rehabilitation policies at the village level; (2) the Head of the Emergency and Logistics Division of the Regional Disaster Management Agency (BPBD) of South Tapanuli Regency as the primary informant who provided information regarding emergency response and mitigation strategies; and (3) an affected resident as the primary informant who provided an overview of the actual impact of the disaster on the economic and social life of the family.

Primary data were obtained through in-depth interviews, while secondary data were obtained from reports of the Regional Disaster Management Agency (BPBD) of South Tapanuli Regency, reports from the National Agency for Disaster Management (BNPB), data from the Central Statistics Agency (BPS), as well as relevant documents and scientific articles. Data collection techniques included in-depth interviews, field observations of the conditions of settlements, agricultural land, and public facilities following the disaster, as well as documentation studies. Data analysis referred to the interactive model of Miles, Huberman, and Saldaña (2014), which consists of three stages: data reduction (data condensation and grouping based on themes of disaster causes, economic impacts, and aspects of Maqasid Shariah), data display (in the form of narrative descriptions, tables, and matrices), and conclusion drawing and verification, which were conducted continuously throughout the research process to ensure the validity and consistency of the findings.

Table 4. Characteristics of Research Informants

Informant Name	Position/Status	Role in the Research
Adamal Tampubolon	Head of Huta Godang Village	Key informant — village policies, damage assessment, and rehabilitation coordination
Idam Halid, S.E.	Head of the Emergency and Logistics Division, BPBD of South Tapanuli Regency	Primary informant — emergency response, evacuation, and mitigation strategies
Syahrul Harahap	Flood-Affected Resident	Primary informant — direct experience of the economic and social impacts

Source: Primary data processed by the researcher (2026).

The validity of the data in this study was ensured through source triangulation, namely by comparing information from village government representatives, disaster management officers, and affected community members, as well as technique triangulation by confirming the interview results against field observation findings and official documents from BPBD and BNPB. This process was conducted to ensure that the description of the causes of the disaster, its economic impacts, and recovery efforts presented in the research findings accurately reflects the actual conditions in the field, rather than merely representing the perception of a single party.

RESULTS AND DISCUSSION

General Overview of the Research Location

Batang Toru District is one of the districts in South Tapanuli Regency, North Sumatra,

with an area of approximately 351 km², covering lowland to hilly areas. Administratively, this district is bordered by Marancar District to the north, Muara Batang Toru District to the south, Central Tapanuli Regency to the west, and Sipirok District to the east, making it a strategic area connecting several regions within South Tapanuli Regency. Geographically, the district is located within the Batang Toru River Basin (DAS), with hilly and mountainous topography and relatively steep slopes, making it highly vulnerable to hydrometeorological disasters, particularly flash floods and landslides. The majority of the population works in the agricultural, plantation (oil palm, rubber, coffee, and rice), trading, livestock, and micro-enterprise sectors, with a smaller proportion working in gold mining and energy infrastructure development. The considerable changes in land use in recent years have also increased ecological pressure in the upstream area of the river basin.

Batang Toru District is traversed by the Batang Toru River and its tributaries, such as the Garoga River and Batuhoring River, which play an important role as sources of water for the community and agricultural sector. During the rainy season with high rainfall, the discharge of these rivers increases significantly, potentially causing flash floods, particularly when accompanied by sedimentation, forest degradation, and reduced water infiltration areas in the upstream region. From a socio-economic perspective, the characteristics of the Batang Toru community, which remains highly dependent on natural resources, mean that the impacts of disasters are not limited to physical damage but also directly affect household economic welfare, as described in the following section.

Factors Causing Landslides and Flash Floods

Based on the results of interviews and field observations, the causes of flash floods in Batang Toru District are the result of the interaction of five main factors, as described below.

a. Extreme Rainfall

High-intensity rainfall that lasted for several hours on the date of the incident caused the discharge of the Batang Toru River to increase rapidly, exceeding the river's capacity.

"At the time of the incident, the rain was very heavy and lasted for quite a long time. Around 04:00–11:00, we saw the discharge of the Batang Toru River increase rapidly until it eventually overflowed into residential areas."

— Adamal Tampubolon, Village Head, interview, June 15, 2026

This information was corroborated by affected residents and BPBD officers who witnessed the river water becoming increasingly turbid and the current becoming stronger before the flood occurred, indicating that extreme rainfall was the initial trigger of the disaster sequence.

b. Topographical Conditions

The Batang Toru area is dominated by hills and mountains with steep slopes from upstream to downstream. This condition causes rainwater to flow at high speed toward lower areas within a relatively short period.

"From upstream to downstream, the slopes are quite steep. So when heavy rain falls in the upper area, the water immediately flows very rapidly downward. As a result, the water discharge increases within a short time and the river is unable to accommodate the water flow."

— Adamal Tampubolon, Village Head, interview, June 15, 2026

These topographical characteristics increase the speed of surface runoff, causing the volume of water entering the river to increase drastically within a short period, while simultaneously carrying soil, rocks, and wood materials from the upstream area, thereby

increasing the destructive force of the flood.

c. Overflow of the Batang Toru River

The increase in water discharge that was disproportionate to the river's capacity caused the water to directly overflow into residential areas, agricultural land, and public facilities around the riverbanks.

"The water came very quickly. At first, we only saw the river beginning to fill up, but within a short time the water had already entered the house. We only had time to save our family members, while most of our belongings could not be moved in time."

— Syabrul Harahap, affected resident, interview, June 15, 2026

The results of observations indicate that houses that experienced the most severe damage were generally located in areas close to the river flow, meaning that communities living along the riverbanks have a higher level of vulnerability than those living farther from the river.

d. Forest Degradation and Land-Use Change

The reduction of vegetation cover in the upstream area due to changes in land use has reduced soil infiltration capacity, causing most rainfall to flow as surface runoff toward the river.

"If we look at the current situation, several areas in the upstream region have already experienced changes in land use. In the past, there were still many trees, but now some areas have been utilized for other activities. As a result, when heavy rain occurs, water flows more quickly into the river because the soil's absorption capacity has decreased."

— Adamal Tampubolon, Village Head, interview, June 15, 2026

This finding is consistent with the results of investigations by WALHI North Sumatra and the Ministry of Environment and Forestry (KLHK), which identified large-scale corporate activities in the upstream Batang Toru River Basin as one of the factors increasing ecological pressure in the area, although this study does not conclude that land-use change is the sole cause of the disaster, but rather a factor that increases the risk when occurring together with high rainfall and steep topography.

e. River Sedimentation

Deposits of mud, sand, rocks, and tree trunks in the Batang Toru River have caused sedimentation that reduces the flow capacity, making the river more prone to overflowing when rainfall increases again.

"After the flood subsided, the river was filled with mud and rocks. Many parts of the river appeared shallower than before. We are worried that if heavy rain comes again, the water will overflow more quickly."

— Syabrul Harahap, affected resident, interview, June 15, 2026

This finding is consistent with the study by Marfai et al. (2021) concerning the relationship between sedimentation and reduced river capacity and the increased frequency of flooding in river basins experiencing high levels of erosion in upstream areas.

The Impact of Flash Floods on Community Employment and Income

The research findings indicate that the economic impacts of the disaster are multidimensional, encompassing five main aspects.

a. Temporary Loss of Employment

Agricultural land covered by flood materials and damage to business premises caused most community members to be unable to carry out economic activities during the emergency response period.

"After the flood, I could not work as usual because the plantation was covered with mud and rocks. For

several weeks, we only cleaned the land while waiting for assistance."

— Syabrul Harahap, affected resident, interview, June 15, 2026

BPBD officers added that during the emergency response period, the priorities were evacuation, fulfillment of basic needs, and restoration of access, meaning that some community members were unable to return to work until this phase was completed.

b. Decline in Income

The decline in income was experienced by almost all groups of affected community members, particularly farmers who experienced crop failures and traders who were unable to sell their goods due to damage to their business premises and disrupted access to markets.

"After the flash flood occurred, the community's income did indeed decline. Many farmers were unable to harvest because their land was damaged and covered by flood materials. Likewise, traders were unable to sell their goods for several days or even several weeks."

— Adamal Tampubolon, Village Head, interview, June 15, 2026

This condition is consistent with the BPBD assessment, which states that damage to agricultural land, business premises, and transportation access directly hindered the community from earning income during the recovery period.

c. Damage to Agricultural Land

As the main source of livelihood, agricultural land was damaged by being buried under mud, sand, rocks, and wood, accompanied by damage to irrigation channels.

"After the flood, our rice fields were filled with mud and rocks. Many of the crops were damaged and could not be harvested. It took several weeks just to clean the land, so we have not been able to plant again."

— Syabrul Harahap, affected resident, interview, June 15, 2026

Farmers require additional time and costs to clean the land, repair irrigation channels, and repurchase seeds before they can resume production, resulting in crop failures and the loss of short-term production cycles that directly affect the income of farming households.

d. Loss of Productive Assets

Productive assets in the form of agricultural equipment, livestock, kiosks, and other business facilities were damaged or swept away by the current, requiring community members to incur additional costs to repair or replace these assets amid financial conditions that had also been affected.

"Many residents who previously could earn income every day experienced a temporary cessation of their activities after the disaster because they no longer had the means to carry out their work. Returning to normal also takes time because people have to repair or replace damaged assets."

— Adamal Tampubolon, Village Head, interview, June 15, 2026

This condition significantly slows household economic recovery, particularly for families who do not have savings or access to capital to immediately replace lost assets.

e. Impact on Family Education and Health

In addition to the direct economic aspects, the flash floods disrupted children's education due to damage to school buildings and learning materials, while also increasing the risk of health problems such as diarrhea, skin diseases, and acute respiratory infections (ARI) due to declining environmental sanitation conditions.

"The children's education was disrupted for a while because the environmental conditions had not yet returned to normal. Some children had difficulty going to school because the roads were damaged. After the flood, health problems also began to emerge; some family members experienced illnesses such as fever and itching."

— Syabrul Harahap, affected resident, interview, June 15, 2026

These impacts increased household expenditure amid declining income, thereby intensifying overall economic pressure on families and demonstrating that the impacts of disasters are interconnected across the economic, educational, and health dimensions.

Table 3. Changes in Community Welfare Conditions Before and After the Flash Flood

Indicator	Before the Flood	After the Flood
Income	Relatively stable from agriculture, plantations, trade, and services	Declined due to disruptions to economic activities
Livelihoods	Agriculture, plantations, and trade operated normally	Land was damaged, and production declined drastically
Education	Teaching and learning activities proceeded normally	School buildings were damaged, and learning activities were disrupted
Health	Access to health services was easily available	Risk of disease increased due to affected sanitation conditions
Productive Assets	Plantations, rice fields, and livestock were in good condition	Many assets were damaged or lost

Source: Processed from the Regional Disaster Management Agency (BPBD) of South Tapanuli Regency (2025) and the Government of South Tapanuli Regency (2025).

Economic Welfare of the Community from the Perspective of Welfare Theory

Referring to the economic welfare theory of Todaro and Smith (2021), welfare is not measured solely by the level of income, but also by the ability to fulfill basic needs, obtain decent employment, and access adequate education and healthcare. Based on this framework, the research findings indicate a multidimensional decline in the welfare of the Batang Toru community following the disaster: disruption of employment activities, declining household income, damage to productive assets, increased expenditures for house repairs and healthcare, and disruption of children's education.

Referring to the BPS welfare indicators—population, education, health, income, household consumption, employment, as well as housing and the environment—the flash flood affected nearly all of these dimensions simultaneously. This confirms that the impact of the disaster is systemic and cannot be reduced merely to material losses, but encompasses an overall decline in quality of life that requires a relatively long recovery period.

At the household level, the findings of this study are also consistent with the concept of family welfare as stipulated in Law Number 52 of 2009, which places a balance between the fulfillment of physical, spiritual, socio-psychological, and health needs as indicators of a prosperous family. The interview results indicate that all four elements were simultaneously disrupted following the disaster: physical needs were disrupted due to house damage and loss of income; spiritual needs were temporarily disrupted due to damage to places of worship; socio-psychological needs were disrupted due to trauma and feelings of insecurity, particularly among children who continued to feel afraid when heavy rain occurred; and health needs faced increased risks due to deteriorating environmental sanitation. This condition confirms that post-disaster welfare recovery needs to be designed holistically, focusing not only on physical and economic

aspects, but also on the simultaneous psychosocial and spiritual recovery of families.

This pattern is theoretically consistent with cross-country evidence on flood-induced welfare loss. Kawasaki, Kawamura, and Zin (2020) and Khayyam (2020) show that flood-affected households in Myanmar and Pakistan experience simultaneous declines in income, assets, and access to basic services, mirroring the multidimensional welfare decline observed in Batang Toru, while Nasta (2026) similarly finds that farming households affected by flash floods in West Sumatra face compounded food-security and livelihood pressures rather than isolated income loss. From an ecosystem-services perspective, Walz et al. (2021) argue that the degradation of upstream forest and watershed functions amplifies disaster-related welfare losses by removing the natural buffering capacity that would otherwise reduce flood severity, a mechanism that corresponds with the land-use change and forest degradation identified as contributing factors in this study. Read together, these theoretical and empirical findings indicate that the economic welfare decline in Batang Toru is not an isolated local phenomenon but reflects a broader, theoretically grounded pattern in which hydrometeorological disasters interact with pre-existing environmental and socio-economic vulnerabilities to produce compounding, multidimensional welfare loss.

Mitigation, Emergency Response, and Post-Disaster Recovery Efforts

The research findings indicate that the local government, BPBD, and village government have implemented a series of disaster management efforts, ranging from victim evacuation, establishment of emergency posts, distribution of logistical assistance, healthcare services, to infrastructure rehabilitation and river normalization.

"We have coordinated with BPBD and the regency government to normalize the Batang Toru River. In addition, we have recorded damaged residents' houses and proposed assistance, as well as repairs to roads and bridges affected by the flood."

— Adamal Tampubolon, Village Head, interview, June 15, 2026

The BPBD emphasized that emergency response was carried out through the Disaster Emergency Response Command Post, which coordinated the Rapid Response Team, BASARNAS, the Indonesian National Armed Forces (TNI), the Indonesian National Police (Polri), the Health Office, and the Social Affairs Office, with the main obstacle being road access blocked by landslide materials, which temporarily hampered the distribution of aid and evacuation processes during the first days following the disaster.

In addition to the role of the government, community participation through the culture of mutual cooperation (gotong royong) also became a major strength in the recovery process. Community members independently cleaned drainage channels, rivers, and residential environments, while also providing informal early warnings to one another when rainfall was high or river discharge began to rise.

"After the flash flood occurred, the community became more active in mutual cooperation to clean the environment, particularly drainage channels, rivers, and areas that could cause water flow blockages. We also inform one another when the Batang Toru River begins to rise."

— Syahrul Harahap, affected resident, interview, June 15, 2026

This pattern of participation is consistent with the concept of Community-Based Disaster Risk Reduction, which places active community involvement as an important element in every stage of disaster management, from prevention to recovery, while simultaneously strengthening social capital and local capacity to address similar threats in the future.

Analysis of Impacts and Recovery Efforts from the Perspective of Maqasid Shariah

Using the framework of the five fundamental objectives of Sharia (al-dharuriyyat al-khams) formulated by Al-Shatibi, the impacts of the flash flood and the disaster management efforts in Batang Toru District can be analyzed as follows.

a. Hifz al-Din (Protection of Religion)

Damage to several mosques and prayer rooms, as well as disrupted access to places of worship, temporarily affected the community's ability to perform religious practices. However, mutual cooperation in cleaning places of worship, along with collective prayers and religious study activities following the disaster, demonstrated efforts to restore hifz al-din while strengthening community solidarity and spiritual resilience in facing the calamity.

b. Hifz al-Nafs (Protection of Life)

The protection of life became the primary priority of emergency response, as reflected in rapid evacuation, the establishment of emergency posts, provision of clean water and healthcare services, as well as special protection for vulnerable groups (children, elderly people, pregnant women, and persons with disabilities) by BPBD, the village government, and the community.

c. Hifz al-'Aql (Protection of Intellect)

Disruptions to access to education and psychological pressure resulting from the loss of property indicate threats to hifz al-'aql. The gradual restoration of teaching and learning activities, as well as social support from families and community leaders, constituted efforts to maintain the continuity of intellectual development and community productivity.

d. Hifz al-Nasl (Protection of Lineage)

Special attention to children and vulnerable groups during the evacuation and recovery processes, including the provision of basic needs and maternal and child healthcare services, reflects efforts to safeguard the continuity of future generations and family social resilience following the disaster.

e. Hifz al-Mal (Protection of Property)

This aspect was the most severely affected dimension, as reflected in damage to houses, agricultural land, livestock, and business facilities. Although the government has provided emergency assistance and rehabilitated infrastructure, the recovery of community livelihoods and productive assets still requires time and continued support, meaning that the protection of hifz al-mal has not yet been fully optimized.

Overall, the mitigation, emergency response, and rehabilitation efforts carried out by the local government, BPBD, village government, and community through river normalization, infrastructure rehabilitation, distribution of assistance, mutual cooperation, and disaster education reflect the implementation of Maqasid Shariah values in safeguarding the welfare (maslahah) of the community. The value of ta'awun (mutual assistance), evident in the community's culture of mutual cooperation, also supports the acceleration of the recovery of hifz al-nafs and hifz al-mal. Nevertheless, the protection of property (hifz al-mal) requires further strengthening through sustainable economic empowerment programs, such as business capital assistance, agricultural land rehabilitation, MSME strengthening, and the optimization of Islamic economic instruments zakat, infaq, sadaqah, and productive waqf, as demonstrated in the integrated zakat-waqf disaster models proposed by Sulistyowati (2019) and the cross-country evidence on Islamic philanthropic disaster response documented by Rahmat et al. (2025) and Suliswanto et al. (2025), so that the objective of realizing welfare can be achieved more

comprehensively and sustainably.

DISCUSSION

Integration of Economic Welfare Theory and Maqasid Shariah

The findings of this study demonstrate a strong convergence between conventional economic welfare theory and the Maqasid Shariah framework in explaining the impacts of disasters. BPS welfare indicators income, employment, education, health, and housing essentially overlap with the five fundamental objectives of Sharia: declining income and damage to productive assets are directly related to *hifz al-mal*; health disruptions are related to *hifz al-nafs*; disruption to education is related to *hifz al-'aql*; and disruptions to family life and vulnerable groups are related to *hifz al-nasl*. The fundamental difference lies in their value orientation: conventional welfare theory tends to focus on measuring material conditions, whereas Maqasid Shariah adds a normative dimension in the form of collective obligations (*fardhu kifayah*) to help one another (*ta'awun*), safeguard the trust of managing natural resources as part of the function of *khalifah*, and prioritize the prevention of *mafsadah* (harm) as a preventive principle in disaster mitigation policies.

Thus, the use of the Maqasid Shariah framework does not merely complement the analysis of economic welfare, but rather broadens the scope of disaster management policies so that they are not solely oriented toward physical and financial recovery, but also toward the comprehensive spiritual, psychological, and social recovery of the community. The implication is that ideal post-disaster policies need to integrate conventional fiscal-social instruments (cash assistance, subsidies, and microcredit) with Islamic philanthropic instruments (*zakat*, *infaq*, *sadaqah*, and productive *waqf*) so that recovery becomes more inclusive, particularly for vulnerable groups that structurally have limited access to formal government assistance schemes.

CONCLUSION

Based on the research findings, three main conclusions can be drawn. First, landslides and flash floods in Batang Toru District were caused by the interaction between natural factors—extreme rainfall, steep topography, the overflow of the Batang Toru River, and river sedimentation—and anthropogenic factors in the form of land-use change and forest degradation in the upstream area of the river basin. Second, the disaster had significant and multidimensional impacts on the economic welfare of the community, including temporary loss of employment, declining income, damage to agricultural land, loss of productive assets, and disruption to family education and health. Third, from the perspective of Maqasid Shariah, the impacts of the disaster affected the five fundamental objectives of Sharia, and the various mitigation, emergency response, and rehabilitation efforts undertaken by the government, BPBD, and the community reflected the implementation of Maqasid Shariah values in safeguarding the welfare of the community, although recovery in the dimension of *hifz al-mal* still requires further strengthening.

This research has implications for local governments to strengthen mitigation policies based on spatial planning supervision, river basin rehabilitation, and early warning systems; for BPBD to improve community preparedness through education and the establishment of Disaster-Resilient Villages; for the community to strengthen environmental management and the culture of mutual cooperation as social capital for disaster mitigation; and for the development of Islamic economic studies to strengthen the integration of the Maqasid Shariah concept into disaster management policies and post-disaster economic empowerment.

Based on these conclusions, several concrete recommendations are put forward. The Government of South Tapanuli Regency is advised to accelerate economic rehabilitation programs through business capital assistance and agricultural land rehabilitation; BPBD is advised to strengthen early warning systems and inter-agency coordination; village governments and communities are advised to maintain the culture of mutual cooperation and preserve the environment; religious leaders and social institutions are advised to strengthen education on the values of ta'awun and environmental responsibility; and Islamic financial institutions are advised to optimize zakat, infaq, sadaqah, and productive waqf instruments for the economic recovery of affected communities. Finally, future researchers are advised to expand the geographical scope beyond a single district, increase the number and diversity of informants, and employ a mixed-methods approach that combines qualitative case analysis with quantitative welfare or vulnerability indices, so as to produce findings that are both context-rich and more broadly generalizable across other disaster-prone, Muslim-majority regions in Indonesia.

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