

## Economic Efficiency and the Prohibition of *Isrāf* in Islamic Disaster Relief: A Comparative Cost-Structure Analysis of Flood Response Programs in Aceh Tamiang and Batu Busuak

Slamet Riyadi<sup>1</sup>, Rozaanah<sup>2</sup>

<sup>1-2</sup> Sekolah Tinggi Agama Islam As-Sunnah Deli Serdang, Indonesia  
slametriyadi@assunnah.ac.id

### Abstract

This article examines economic efficiency in Islamic disaster relief operations through the lens of the *sharīʿah* prohibition against *isrāf* (waste/extravagance) and the *maqāṣid* principle of *ḥifẓ al-māl* (preservation of wealth). Drawing empirical evidence from two Indonesian flood response programs—the November 2025 Aceh Tamiang intervention (IDR 138,500,000 serving 270 households) and the December 2025 Batu Busuak response (IDR 57,000,000 serving 150 households)—this study conducts a comparative cost-structure analysis examining resource allocation patterns, logistical efficiency indicators, and operational decisions affecting aid delivery effectiveness. The methodology employs cost-per-beneficiary analysis, procurement strategy assessment, and distribution method evaluation against Islamic public finance principles. Findings reveal that both programs achieved comparable cost-efficiency ratios (IDR 513,000 and IDR 380,000 per household respectively), with divergent strategies for minimizing waste: the Aceh Tamiang program emphasized volunteer mobilization and multi-stakeholder coordination, while the Batu Busuak program leveraged international philanthropy networks and local procurement to reduce transportation costs. Both programs demonstrated alignment with the Islamic prohibition of *isrāf* through strategic resource allocation, though opportunities exist for enhanced efficiency through standardized procurement protocols and improved logistics coordination. This article contributes to Islamic economic law scholarship by operationalizing classical jurisprudential concepts of waste prohibition within contemporary humanitarian logistics frameworks, proposing *sharīʿah*-compliant efficiency metrics for disaster relief evaluation.

**Keywords:** *isrāf*, economic efficiency, Islamic public finance, humanitarian logistics, disaster relief, *maqāṣid al-sharīʿah*, *ḥifẓ al-māl*

### Article Info

Article History:

Received: 25-01-2026 Accepted: 26-02-2026 Publish: 28-02-2026



: 10.51590/salsabil.v2i1.63

## Introduction

The efficient utilization of charitable resources constitutes a fundamental obligation within Islamic economic ethics. Classical jurisprudence consistently emphasizes that wealth—whether individually or collectively held—must be deployed in accordance with shari‘ah objectives, avoiding both miserliness (*bukhl*) and wastefulness (*isrāf*).<sup>1</sup> This balanced approach to resource management acquires heightened significance in disaster relief contexts, where the urgency of humanitarian need creates pressure for rapid deployment that may compromise careful stewardship of donated funds.

Contemporary humanitarian logistics scholarship has extensively documented the efficiency challenges facing disaster response operations, including unpredictable demand patterns, compressed timelines, and coordination failures among multiple actors.<sup>2</sup> Research indicates that humanitarian supply chains face unique constraints distinguishing them from commercial logistics, notably the absence of profit incentives that typically drive efficiency optimization and the moral imperative to serve all affected populations regardless of cost considerations.<sup>3</sup> These structural features create persistent tension between operational efficiency and humanitarian coverage—a tension that Islamic economic principles are uniquely positioned to address through their integration of ethical obligations with practical resource management.

Indonesia's recurring exposure to hydrometeorological disasters generates substantial Islamic philanthropic mobilization, yet scholarly attention to the economic efficiency of such interventions remains underdeveloped. Existing literature on Islamic disaster response emphasizes theological motivations, fundraising mechanisms, and organizational capacity, while neglecting systematic analysis of whether resource utilization patterns satisfy shari‘ah standards of efficient stewardship.<sup>4</sup> This gap carries significant consequences for Islamic public finance theory, as it leaves unanswered whether contemporary Islamic disaster relief achieves the balanced resource deployment that classical jurisprudence demands.

Against this background, this article poses the following research questions: How do Islamic disaster relief programs allocate resources across operational categories, and to what extent do observed allocation patterns align with shari‘ah principles prohibiting waste while ensuring adequate humanitarian coverage? What logistical strategies do such programs employ to maximize aid delivery efficiency, and how might these strategies be evaluated against *maqāṣid al-shari‘ah* criteria?

To investigate these questions, this study conducts a comparative cost-structure analysis of two recent Indonesian flood response programs: the November 2025 intervention in Aceh Tamiang coordinated by STAI As-Sunnah Deli Serdang with academic-volunteer collaboration, and the December 2025 response in Batu Busuak, Padang implemented through Singapore-Indonesia Islamic philanthropy partnership. Both programs generated detailed documentation of financial resources, aid composition, procurement strategies, and distribution methods—providing unusually rich data for economic efficiency analysis.

---

<sup>1</sup> Abū Ḥāmid Muḥammad ibn Muḥammad Al-Ghazālī, *Iḥyā’ ‘Ulūm Al-Dīn*, vol. 4 (Beirut: Dār al-Ma‘rifah, n.d.).

<sup>2</sup> Gyöngyi Kovács and Karen M Spens, “Humanitarian Logistics in Disaster Relief Operations,” *International Journal of Physical Distribution & Logistics Management* 37, no. 2 (2007): 99–114, <https://doi.org/10.1108/09600030710734820>.

<sup>3</sup> Luk N Van Wassenhove, “Humanitarian Aid Logistics: Supply Chain Management in High Gear,” *Journal of the Operational Research Society* 57, no. 5 (2006): 475–89, <https://doi.org/10.1057/palgrave.jors.2602125>.

<sup>4</sup> Nurdin Hasan and Ahmad Nizar Yogatama, “Islamic Philanthropy and Social Justice: The Role of Islamic CSR in Indonesia,” *Kyoto Bulletin of Islamic Area Studies* 6 (2013): 85–105.

This article contributes to Islamic economic law scholarship in three respects. First, it operationalizes the classical prohibition of *isrāf* within contemporary humanitarian logistics frameworks, translating abstract jurisprudential principles into measurable efficiency indicators. Second, it provides the first comparative cost-structure analysis of Indonesian Islamic disaster relief programs, identifying both common efficiency strategies and divergent operational approaches. Third, it generates policy recommendations for *sharīʿah*-compliant efficiency standards that balance waste avoidance with adequate humanitarian coverage.

## Literature Review

### Islamic Economic Principles on Efficient Resource Utilization

Islamic jurisprudence establishes comprehensive principles governing wealth management that directly inform disaster relief economics. The Qurʾānic prohibition of *isrāf* appears in multiple contexts, most explicitly in *Sūrah al-Aʿrāf* (7:31): "Eat and drink but do not waste; surely He does not love the wasteful" (إِنَّهُ لَا يُحِبُّ الْمُسْرِفِينَ). Al-Ghazālī's classification in *Iḥyāʾ ʿUlum al-Dīn* establishes that *isrāf* encompasses not merely excessive personal consumption but any deployment of resources beyond what achieves legitimate objectives—a principle directly applicable to charitable expenditure.<sup>5</sup>

The *maqāṣid al-sharīʿah* framework provides theoretical grounding for efficiency requirements in Islamic public finance. Al-Shāṭibī's foundational treatment in *al-Muwāfaqāt* establishes that *sharīʿah* objectives include *ḥifẓ al-māl* (preservation of wealth), which encompasses not merely protection from theft or destruction but positive obligations to deploy wealth productively toward beneficial ends.<sup>6</sup> When applied to disaster relief, this principle demands that charitable resources be utilized in ways that maximize beneficial impact rather than dissipated through inefficient operations.

Contemporary Islamic economists have extended these classical principles to institutional contexts. Chapra argues that Islamic economic systems must achieve both allocative efficiency (directing resources toward highest-value uses) and distributive justice (ensuring equitable access to economic opportunities).<sup>7</sup> Tag el-Dīn's work on *maqāṣid* foundations of market economics demonstrates how classical objectives translate into operational criteria for evaluating economic institutions, including charitable organizations.<sup>8</sup> These theoretical developments provide the conceptual apparatus for assessing whether disaster relief operations satisfy *sharīʿah* efficiency requirements.

### Humanitarian Logistics and Efficiency Measurement

The humanitarian logistics literature has developed sophisticated frameworks for evaluating disaster relief efficiency. Van Wassenhove's foundational work characterizes humanitarian logistics as "supply chain management in high gear," identifying speed, agility, and adaptability as critical performance dimensions.<sup>9</sup> Kovács and Spens extend this analysis by distinguishing between

---

<sup>5</sup> Abū Ishāq Ibrāhīm Al-Shāṭibī, *Al-Muwāfaqāt Fi Uṣūl Al-Sharīʿah* (Beirut: Dār al-Kutub al-ʿIlmiyyah, 1997).

<sup>6</sup> M Umer Chapra, *The Future of Economics: An Islamic Perspective* (Leicester: The Islamic Foundation, 2000).

<sup>7</sup> Seif Ibrahim Tag el-Dīn, *Maqasid Foundations of Market Economics* (Edinburgh: Edinburgh University Press, 2013).

<sup>8</sup> José Holguín-Veras et al., "On the Unique Features of Post-Disaster Humanitarian Logistics," *Journal of Operations Management* 30, no. 7–8 (2012): 494–506, <https://doi.org/10.1016/j.jom.2012.08.003>.

<sup>9</sup> José Holguín-Veras et al., "On the Appropriate Objective Function for Post-Disaster Humanitarian Logistics Models," *Journal of Operations Management* 31, no. 5 (2013): 262–80, <https://doi.org/10.1016/j.jom.2013.06.002>.

preparation, immediate response, and reconstruction phases, each with distinct efficiency requirements and measurement challenges.<sup>10</sup>

Holguín-Veras and colleagues identify seven unique features of post-disaster humanitarian logistics that complicate efficiency measurement: convergence of materials and people, donor-specified supplies, irregular procurement channels, uncertain demand, constrained supply, varying perspectives on success, and multiple organizations with diverse missions.<sup>11</sup> Their subsequent research proposes incorporating "deprivation costs"—the human suffering caused by delayed aid delivery—into objective functions for logistics optimization, recognizing that pure cost minimization may sacrifice humanitarian outcomes.<sup>12</sup>

Research on coordination in humanitarian relief chains documents persistent inefficiencies arising from inadequate collaboration among responding organizations. Balcik and colleagues identify redundant efforts, gaps in coverage, and misaligned incentive structures as common coordination failures that inflate costs without improving outcomes.<sup>13</sup> These findings suggest that efficiency in disaster relief depends not merely on individual organizational performance but on systemic coordination mechanisms.

### **Islamic Philanthropy and Institutional Efficiency**

Empirical research on Islamic philanthropic institutions has begun addressing efficiency measurement, particularly in zakāt and waqf administration. Abd Wahab and Abdul Rahman propose a comprehensive framework for analyzing zakāt institution efficiency encompassing collection effectiveness, distribution targeting, and administrative cost ratios.<sup>14</sup> Their framework identifies governance quality, transparency, and accountability as key determinants of institutional efficiency—factors directly relevant to disaster relief operations.

Djaghballou and colleagues employ Data Envelopment Analysis to measure zakāt fund efficiency in Algeria, demonstrating that quantitative efficiency measurement is feasible for Islamic philanthropic institutions.<sup>15</sup> Their methodology—comparing inputs (resources expended) to outputs (beneficiaries served)—provides a template for disaster relief efficiency analysis. Saad and colleagues extend this work by identifying inputs for efficient zakāt revenue generation, including environmental, resource, and historical components that parallel considerations in disaster relief logistics.<sup>16</sup>

---

<sup>10</sup> Burcu Balcik et al., "Coordination in Humanitarian Relief Chains: Practices, Challenges and Opportunities," *International Journal of Production Economics* 126, no. 1 (2010): 22–34, <https://doi.org/10.1016/j.ijpe.2009.09.008>.

<sup>11</sup> Norazlina Abd Wahab and Abdul Rahim Abdul Rahman, "A Framework to Analyse the Efficiency and Governance of Zakat Institutions," *Journal of Islamic Accounting and Business Research* 2, no. 1 (2011): 43–62, <https://doi.org/10.1108/17590811111129508>.

<sup>12</sup> Chams-Eddine Djaghballou et al., "Efficiency and Productivity Performance of Zakat Funds in Algeria," *International Journal of Islamic and Middle Eastern Finance and Management* 11, no. 3 (2018): 474–94, <https://doi.org/10.1108/IMEFM-07-2017-0185>.

<sup>13</sup> Ram Al Jaffri Saad et al., "Zakat Administration Reformation Towards an Effective and Efficient Zakat Revenue Generation," *Journal of Islamic Accounting and Business Research* 14, no. 8 (2023): 1232–60, <https://doi.org/10.1108/JIABR-05-2021-0151>.

<sup>14</sup> Muhammad Iqmal Hisham Kamaruddin and Mustafa Mohd Hanefah, "An Empirical Investigation on Waqf Governance Practices in Waqf Institutions in Malaysia," *Journal of Financial Reporting and Accounting* 19, no. 3 (2021): 455–73, <https://doi.org/10.1108/JFRA-03-2020-0055>.

<sup>15</sup> Ramdani Ramdani, Tika Widiastuti, and Imron Mawardi, "Implementation of Islamic Values in Waqf Governance: A Systematic Literature Review," *Journal of Islamic Marketing* 15, no. 8 (2024): 1925–41, <https://doi.org/10.1108/JIMA-03-2023-0079>.

<sup>16</sup> Mohammad Hashim Kamali, *Principles of Islamic Jurisprudence*, 3rd rev. ed. (Cambridge: Islamic Texts Society, 2006).

Research on waqf governance by Kamaruddin and Hanefah examines how institutional arrangements affect resource utilization efficiency, finding that board composition, accountability mechanisms, and stakeholder engagement significantly influence operational effectiveness.<sup>17</sup> Ramdani, Widiastuti, and Mawardi's systematic review identifies Islamic values implementation in waqf governance, establishing that efficiency requirements are embedded within broader ethical frameworks rather than constituting standalone considerations.<sup>18</sup>

### Gaps in Existing Literature

Despite advances in both humanitarian logistics and Islamic philanthropy scholarship, significant gaps remain in their intersection. First, existing research on Islamic disaster response rarely engages quantitative efficiency analysis, leaving unanswered whether observed practices satisfy shari'ah stewardship standards. Second, the humanitarian logistics literature predominantly examines secular organizations, with limited attention to faith-based responders whose efficiency motivations may differ from conventional assumptions. Third, no existing study provides comparative cost-structure analysis across multiple Islamic disaster relief programs, impeding identification of best practices and efficiency benchmarks.

This study addresses these gaps by conducting rigorous efficiency analysis of two documented Islamic disaster relief programs, employing both Islamic jurisprudential criteria and humanitarian logistics metrics. The comparative design enables identification of common patterns and divergent strategies, while the empirical grounding in detailed program documentation ensures analytical rigor.

### Theoretical Framework

This study employs an integrated theoretical framework combining maqāṣid al-shari'ah principles with humanitarian logistics efficiency concepts. The framework operationalizes Islamic economic ethics through four analytical dimensions: (1) waste avoidance, (2) cost-effectiveness, (3) resource optimization, and (4) stewardship accountability.

**Waste Avoidance (‘Adam al-Isrāf)** derives from the Qur'anic prohibition against extravagance and al-Ghazālī's classification of expenditure categories. In disaster relief contexts, waste encompasses: (a) procurement of items exceeding beneficiary needs; (b) logistical inefficiencies inflating delivery costs; (c) administrative overhead disproportionate to program scale; and (d) duplication of efforts across organizations. The principle does not demand absolute cost minimization—which might compromise humanitarian coverage—but proportionality between expenditure and beneficial impact.<sup>19</sup>

**Cost-Effectiveness (al-Kifāyah bi-Aqall al-Takālīf)** reflects the Islamic economic principle that objectives should be achieved through means requiring minimum necessary resources. Kamali's analysis of maṣlaḥah (public interest) in Islamic jurisprudence establishes that when multiple means exist to achieve legitimate objectives, shari'ah reasoning favors approaches minimizing harm and

---

<sup>17</sup> Salman Syed Ali, *Towards a Maqāṣid Al-Shari'ah Index of Socio-Economic Development: Theory and Application* (Cham: Palgrave Macmillan, 2019).

<sup>18</sup> M Kabir Hassan and Mervyn K Lewis, *Handbook on Islam and Economic Life* (Cheltenham: Edward Elgar Publishing, 2015).

<sup>19</sup> Dori Chandra et al., "The Collaboration of Academics, Students, and Volunteers in Responding to the Aceh Tamiang Flood Disaster: A Participatory Action Research-Based Aid Distribution Model," *Al-Arkehabii: Jurnal Pengabdian Masyarakat* 5, no. SI-1 (2025): 2–20.

maximizing benefit.<sup>20</sup> Applied to disaster relief, this principle supports strategies achieving equivalent humanitarian outcomes at lower cost, freeing resources for additional beneficiaries.

**Resource Optimization (Taḥsīn Istikhdam al-Mawārid)** extends beyond waste avoidance to encompass positive obligations for productive deployment. The maqāṣid framework, as developed by contemporary scholars including Ali, establishes that Islamic institutions should maximize socio-economic development impact per unit of resource expended.<sup>21</sup> In disaster relief, optimization requires strategic decisions about aid composition, procurement timing, distribution methods, and geographic prioritization that collectively enhance program impact.

**Stewardship Accountability (al-Amānah fī al-Taṣarruf)** reflects the Islamic principle that those entrusted with charitable resources bear responsibility for their proper utilization. The ḥadīth literature emphasizes that wasting wealth (iḍāʿat al-māl) constitutes a prohibited act, with administrators accountable before both community and Creator for resource deployment decisions.<sup>22</sup> This accountability dimension distinguishes Islamic efficiency requirements from purely utilitarian calculations, embedding efficiency within a broader ethical framework.

Together, these four dimensions generate evaluative criteria for assessing disaster relief operations against sharīʿah standards, enabling systematic analysis rather than impressionistic judgment.

## Methodology

### Data Sources

This study draws empirical evidence from two documented disaster relief programs:

**Source 1 (Aceh Tamiang):** The community service report by Chandra et al. documenting flood response in Aceh Tamiang Regency, November 2025.<sup>23</sup> This program, implemented by STAI As-Sunnah Deli Serdang with 42 personnel (7 lecturers, 5 students, 30 volunteers), distributed aid across five locations reaching 270 households (approximately 855 individuals) with total resources of IDR 138,500,000.

**Source 2 (Batu Busuak):** The community service report by Riyadi et al. documenting flash flood response in Batu Busuak, Padang, December 2025.<sup>24</sup> This program, implemented through STAI As-Sunnah and Bayaan Association Singapore collaboration under Arrisalah Humanitarian Care Foundation, distributed aid to 150 households across three locations with resources of IDR 57,000,000.

Both sources provide detailed information on financial resources, aid composition, procurement strategies, distribution methods, and operational challenges—enabling comparative cost-structure analysis.

---

<sup>20</sup> Slamet Riyadi et al., “Humanitarian Aid for Flash Flood Victims in Batu Busuak: An International Collaboration Between STAI As-Sunnah and Bayaan Association Singapore,” *Al-Arkhabiil: Jurnal Pengabdian Masyarakat* 5, no. SI-1 (2025): 22–31.

<sup>21</sup> Christopher W Zobel, Nezih Altay, and Mark P Haselkorn, *Advances in Managing Humanitarian Operations* (Cham: Springer, 2016).

<sup>22</sup> Linet Özdamar and Mustafa Alp Ertem, “Models, Solutions and Enabling Technologies in Humanitarian Logistics,” *European Journal of Operational Research* 244, no. 1 (2015): 55–65, <https://doi.org/10.1016/j.ejor.2014.11.030>.

<sup>23</sup> Muḥammad al-Ṭāhir Ibn ʿĀshūr, *Maqāṣid Al-Sharīʿah Al-Islamiyyah* (Jordan: Dār al-Nafāʿis, 2001).

<sup>24</sup> Riyadi et al., “Humanitarian Aid for Flash Flood Victims in Batu Busuak: An International Collaboration Between STAI As-Sunnah and Bayaan Association Singapore.”

## Analytical Methods

The analysis proceeds through three complementary methods:

**Cost-per-Beneficiary Analysis** calculates the total resources expended divided by beneficiary households, enabling direct comparison of program efficiency. This metric, while imperfect (as it does not capture aid quality or composition differences), provides a baseline efficiency indicator widely used in humanitarian logistics research.<sup>25</sup>

**Resource Allocation Assessment** examines how programs distributed resources across operational categories (aid procurement, transportation, personnel, administration), identifying allocation patterns and their alignment with shari‘ah efficiency principles. This assessment draws on the framework developed by Abd Wahab and Abdul Rahman for zakāt institution efficiency analysis.<sup>26</sup>

**Logistical Strategy Evaluation** analyzes procurement, transportation, and distribution decisions against humanitarian logistics best practices and Islamic stewardship principles. This evaluation examines whether operational choices minimized waste while ensuring adequate humanitarian coverage.

## Limitations

This methodology faces several limitations requiring acknowledgment. First, the source documents do not provide detailed cost breakdowns by category, requiring inference from narrative descriptions. Second, aid quality and composition differences between programs complicate direct cost comparisons. Third, the two-case design limits generalizability, though it enables in-depth comparative analysis. These limitations are addressed through careful qualification of findings and emphasis on pattern identification rather than precise quantification.

## Result and Analysis

### Overall Cost-Efficiency Comparison

The two programs demonstrated comparable cost-efficiency ratios despite significant differences in scale, funding sources, and operational contexts.

**Table 1: Basic Cost-Efficiency Indicators**

Indicator	Aceh Tamiang	Batu Busuak
Total Resources	IDR 138,500,000	IDR 57,000,000
Beneficiary Households	270	150
Estimated Individuals	855	~475*
Cost per Household	IDR 513,000	IDR 380,000
Cost per Individual	IDR 162,000	IDR 120,000

<sup>25</sup> Zobel, Altay, and Haselkorn, *Advances in Managing Humanitarian Operations*.

<sup>26</sup> Abd Wahab and Abdul Rahman, “A Framework to Analyse the Efficiency and Governance of Zakat Institutions.”

\*Estimated based on average household size from Aceh Tamiang data (3.17 persons per household)

The Batu Busuak program achieved a 26% lower cost-per-household ratio (IDR 380,000 versus IDR 513,000), suggesting higher efficiency on this metric. However, this comparison requires qualification, as the programs differed significantly in aid composition—the Aceh Tamiang program included substantial medical supplies delivered to the regional hospital, representing a distinct aid category not directly comparable to household food packages.

From a shari‘ah perspective, both ratios represent reasonable stewardship of charitable resources. The cost-per-household figures translate to approximately USD 32–35 per household, comparable to or below international humanitarian benchmarks for emergency food assistance.<sup>27</sup> Neither program exhibits the inflated cost structures that would indicate israf in resource utilization.

### **Procurement Strategies and Waste Avoidance**

Both programs employed procurement strategies explicitly designed to minimize waste and maximize aid volume from available resources.

**Local Procurement Emphasis:** The Batu Busuak program explicitly documented local procurement rationale: "The decision to purchase necessities in Padang was made to reduce transportation costs from Medan and ensure the freshness of the products to be distributed."<sup>28</sup> This strategy avoided the transportation costs that would have been incurred shipping supplies from the Medan-based institutional headquarters to West Sumatra—a distance of approximately 700 kilometers. By procuring locally, the program converted potential transportation expenditure into additional aid volume, directly serving the maqāṣid objective of resource optimization.

The report further notes that "an advance team was sent to Padang to prepare for the procurement of the items, while the main team... departed from Kualanamu Airport."<sup>29</sup> This coordination between advance procurement and main team arrival demonstrates operational planning designed to minimize delay costs and ensure efficient resource deployment.

**Comprehensive Aid Composition:** The Aceh Tamiang program's aid composition reflects strategic procurement balancing diverse needs:

- 250 food packages (rice, vegetable oil, salt, sardines, mineral water, instant noodles)
- 100 bales of men's and women's clothing
- 80 boxes of mineral water
- 25 boxes of instant noodles
- 14 boxes of bread and cakes
- 10 boxes of bottle milk
- 6 boxes of dates
- 700 pieces of diapers and sanitary napkins

---

<sup>27</sup> Zobel, Altay, and Haselkorn, *Advances in Managing Humanitarian Operations*.

<sup>28</sup> Riyadi et al., "Humanitarian Aid for Flash Flood Victims in Batu Busuak: An International Collaboration Between STAI As-Sunnah and Bayaan Association Singapore."

<sup>29</sup> Riyadi et al.

- 3,000 pieces of masks
- Medical supplies (40+ types of medicines and equipment)<sup>30</sup>

This diversified composition demonstrates attention to actual beneficiary needs rather than standardized packages that might include unwanted items—a form of waste avoidance through responsive procurement. The inclusion of specific items for vulnerable subpopulations (infant supplies, sanitary products) reflects the shari‘ah principle that charitable resources should address actual needs rather than donor assumptions.

**Medical Aid Integration:** The Aceh Tamiang program's delivery of medical supplies to the regional hospital represents an efficiency strategy distinct from direct household distribution. By channeling medical resources through institutional healthcare infrastructure, the program ensured professional management and appropriate utilization—avoiding the waste that might occur if medicines were distributed directly to households lacking medical expertise for proper use.<sup>31</sup>

### Logistical Efficiency and Distribution Methods

Both programs employed adaptive distribution methods balancing operational efficiency with beneficiary accessibility.

**Multi-Location Distribution:** The Aceh Tamiang program distributed across five locations over two days, requiring logistical coordination across geographically dispersed sites. The report documents systematic scheduling:

- November 5 : Landu, Benua Raja (150 households, 13:00–15:00)
- November 8 : RSUD Aceh Tamiang (medical supplies, 12:30–13:15), Buluh Butung (120 households, 16:00–17:00), Purwodadi (17:30–18:25), Kota Lintang Bawah (13:30–15:05)<sup>32</sup>

This scheduling demonstrates efficient time utilization, with multiple distribution points served within single days. The 45-minute medical supply delivery to the hospital reflects streamlined institutional transfer, while the household distributions required 1–1.5 hours each—reasonable durations for assembly-point methods serving 100+ households.

**Assembly-Point Efficiency:** Both programs utilized assembly-point distribution as their primary method, wherein beneficiaries gathered at designated locations to receive aid. This method offers significant logistical advantages: reduced transportation requirements (one delivery per location rather than per household), faster distribution (recipients come to distribution point), and simplified documentation (systematic recording at single location).<sup>33</sup>

The Batu Busuak report explicitly notes the efficiency rationale: "For locations with adequate road access, an assembly-point method was used, in which the community gathered at a designated location to receive assistance. This approach enables faster, more efficient distribution to a large number of recipients."<sup>34</sup>

---

<sup>30</sup> Chandra et al., "The Collaboration of Academics, Students, and Volunteers in Responding to the Aceh Tamiang Flood Disaster: A Participatory Action Research-Based Aid Distribution Model."

<sup>31</sup> Chandra et al.

<sup>32</sup> Chandra et al.

<sup>33</sup> Özdamar and Ertem, "Models, Solutions and Enabling Technologies in Humanitarian Logistics."

<sup>34</sup> Riyadi et al., "Humanitarian Aid for Flash Flood Victims in Batu Busuak: An International Collaboration Between STAI As-Sunnah and Bayaan Association Singapore."

**Door-to-Door Complementarity:** Both programs employed door-to-door delivery for beneficiaries unable to access assembly points—elderly persons, those with disabilities, and residents in isolated locations. While less efficient per-unit-delivered than assembly-point methods, this adaptive approach ensures humanitarian coverage that pure efficiency optimization might sacrifice.

The Aceh Tamiang report frames this as principled adaptation: "for isolated areas or recipients with mobility difficulties, such as older adults and people with disabilities, the team conducts door-to-door distribution by visiting residents' homes."<sup>35</sup> From a *sharī'ah* perspective, this balancing of efficiency with coverage reflects the *maqāṣid* principle that *ḥifẓ al-nafs* (protection of life) may require accepting higher per-unit costs for vulnerable populations.

### **Volunteer Mobilization and Personnel Efficiency**

The programs demonstrated different approaches to personnel efficiency, both achieving substantial output with limited paid staff.

**Academic-Volunteer Integration (Aceh Tamiang):** The 42-person implementation team comprised 7 lecturers, 5 students, and 30 volunteers—with the volunteer component representing 71% of personnel.<sup>36</sup> This composition minimized personnel costs while providing adequate distribution capacity. The integration of students reflects the *Tri Dharma Perguruan Tinggi* (Three Pillars of Higher Education) mandate, converting educational institution resources toward community service without additional expense.

The report emphasizes collaborative governance: "This collaboration between lecturers, students, and volunteers reflects the spirit of mutual assistance and social concern in facing emergency disaster situations, in line with the concept of *ta'āwun 'alā al-birr wa al-taqwā* (mutual assistance in goodness and worship)."<sup>37</sup> This framing locates efficiency within broader Islamic values rather than presenting it as a purely operational consideration.

**International Network Leverage (Batu Busuak):** The Singapore-Indonesia collaboration leveraged pre-existing institutional relationships established through *qurban* and *aqiqah* programs. The report documents this efficiency mechanism: "The partnership between the two organisations has long been established through *qurban* and *aqiqah* programmes, whereby *Bayaan* collects funds from Muslims in Singapore, and the *Arrisalah Humanitarian Care Foundation* conducts the sacrifice and distribution in Indonesia."<sup>38</sup>

This pre-existing relationship enabled rapid fund mobilization without the transaction costs typically associated with establishing new partnerships during emergencies. The clear division of responsibilities—*Bayaan Association* handling fundraising in Singapore, *Arrisalah Foundation* and *STAI As-Sunnah* managing procurement and distribution in Indonesia—reflects efficient specialization based on comparative advantage.<sup>39</sup>

---

<sup>35</sup> Chandra et al., "The Collaboration of Academics, Students, and Volunteers in Responding to the Aceh Tamiang Flood Disaster: A Participatory Action Research-Based Aid Distribution Model."

<sup>36</sup> Chandra et al.

<sup>37</sup> Chandra et al.

<sup>38</sup> Riyadi et al., "Humanitarian Aid for Flash Flood Victims in Batu Busuak: An International Collaboration Between STAI As-Sunnah and *Bayaan Association* Singapore."

<sup>39</sup> Riyadi et al.

## Transparency and Accountability Mechanisms

Both programs implemented transparency measures that, while primarily serving accountability objectives, also contribute to efficiency by enabling donor confidence and reducing monitoring costs.

**Visible Institutional Identity:** The Batu Busuak program employed multiple transparency mechanisms: "A standing banner from STAI As-Sunnah is also displayed at each distribution location for transparency regarding the identity of the activity organisers... a large banner reading 'From the Indonesian People - Through the Humanities Project' to indicate that the aid funds originate from the Indonesian people through a humanitarian programme."<sup>40</sup>

**Systematic Documentation:** Both programs maintained beneficiary records enabling verification and preventing duplicate distribution—a form of waste avoidance. The Batu Busuak report notes: "each recipient of assistance was systematically recorded in a manual list compiled on-site to ensure accountability and transparency."<sup>41</sup> Similarly, the Aceh Tamiang program documented that "beneficiary data was recorded in full, including the name of the head of the family, address, and number of family members."<sup>42</sup>

These documentation practices serve the Islamic principle of *amānah* (trust) while also generating data enabling efficiency assessment and program improvement.

## Discussion

### Alignment with Shari‘ah Efficiency Principles

The comparative analysis reveals that both programs substantially aligned with shari‘ah principles prohibiting waste while ensuring adequate humanitarian coverage.

**Waste Avoidance:** Neither program exhibits indicators of *isrāf*—no excessive administrative overhead, no procurement of unnecessary items, no duplicative efforts. The local procurement strategy (Batu Busuak) and volunteer mobilization (Aceh Tamiang) represent active waste-avoidance mechanisms converting potential inefficiencies into additional aid volume. Both programs' aid compositions reflected actual beneficiary needs rather than standardized packages that might include unwanted items.

**Cost-Effectiveness:** The achieved cost-per-household ratios (IDR 380,000–513,000) represent reasonable efficiency levels for emergency food assistance, suggesting that resources were deployed effectively toward humanitarian objectives. The variation between programs reflects different aid compositions and operational contexts rather than differential efficiency performance.

**Resource Optimization:** Both programs demonstrated optimization through strategic decisions: the Batu Busuak program's advance procurement team coordinated with main team arrival, while the Aceh Tamiang program's multi-location scheduling maximized distributions per deployment day. These operational choices reflect the *maqāṣid* principle that resources should be deployed to achieve maximum beneficial impact.

---

<sup>40</sup> Riyadi et al.

<sup>41</sup> Riyadi et al.

<sup>42</sup> Chandra et al., "The Collaboration of Academics, Students, and Volunteers in Responding to the Aceh Tamiang Flood Disaster: A Participatory Action Research-Based Aid Distribution Model."

**Stewardship Accountability:** Transparency mechanisms in both programs—institutional identification, beneficiary documentation, coordination with local authorities—reflect the *amānah* principle that administrators bear responsibility for proper resource utilization. These mechanisms also enable efficiency verification, creating accountability structures that incentivize continued efficient performance.

### **Efficiency-Coverage Trade-offs**

The analysis identifies systematic tension between efficiency optimization and humanitarian coverage that *sharīʿah* principles help resolve.

Pure efficiency metrics would favor concentrated distribution in accessible locations, avoiding the higher per-unit costs of door-to-door delivery to isolated households. However, both programs explicitly accepted these higher costs to ensure vulnerable population coverage. This trade-off reflects the *maqāṣid* hierarchy wherein *ḥifẓ al-nafs* (protection of life) takes precedence over *ḥifẓ al-māl* (preservation of wealth) when these objectives conflict.<sup>43</sup>

The Islamic framework thus provides normative guidance that secular efficiency analysis lacks: efficiency is obligatory (avoiding *isrāf*), but not at the expense of humanitarian coverage for vulnerable populations. This integration of efficiency within broader ethical commitments distinguishes Islamic approaches from utilitarian cost-minimization that might sacrifice the most vulnerable to aggregate metrics.

### **Implications for Islamic Disaster Relief Governance**

The findings generate several implications for *sharīʿah*-compliant disaster relief administration.

**Procurement Standardization:** Both programs would benefit from pre-positioned procurement protocols enabling rapid local purchasing without ad hoc negotiation during emergencies. Islamic finance institutions might develop approved vendor lists and framework agreements supporting efficient emergency procurement.

**Volunteer Capacity Building:** The Aceh Tamiang model of academic-volunteer integration demonstrates how Islamic educational institutions can mobilize substantial response capacity at minimal cost. Formalized volunteer training programs and standby arrangements would enhance this capacity for future emergencies.

**Network Pre-positioning:** The Batu Busuak model demonstrates that international Islamic philanthropy networks established through routine religious programs (*qurban*, *aqiqah*) can be rapidly activated for emergency response. Conscious cultivation of such networks expands disaster response capacity while maintaining efficient fund channeling.

**Efficiency Benchmarking:** The cost-per-household ratios documented in this study (IDR 380,000–513,000) provide initial benchmarks against which future programs might be assessed. Development of comprehensive efficiency metrics aligned with *sharīʿah* principles would enhance accountability and continuous improvement.

### **Limitations and Future Research**

This study's limitations warrant acknowledgment and point toward future research directions.

---

<sup>43</sup> Ibn ʿAshūr, *Maqāṣid Al-Sharīʿah Al-Islāmiyyah*.

The two-case design, while enabling in-depth comparative analysis, limits generalizability. Future research should examine larger samples of Islamic disaster relief programs to establish more robust efficiency benchmarks and identify additional best practices.

The absence of detailed cost breakdowns in source documents required inference from narrative descriptions. Future program documentation should include systematic financial reporting enabling more precise efficiency analysis.

The focus on immediate relief operations does not capture long-term recovery efficiency, where different considerations may apply. The Batu Busuak program's planned mosque and bore well construction represents sustainability investments whose efficiency requires distinct analytical frameworks.

Finally, this study examines efficiency from organizational perspectives without systematic beneficiary feedback on aid adequacy and appropriateness. Future research should incorporate beneficiary assessments to ensure that organizational efficiency metrics align with actual humanitarian outcomes.

## Conclusion and Policy Recommendations

This comparative cost-structure analysis demonstrates that Islamic disaster relief programs can achieve substantial efficiency while maintaining fidelity to *sharī'ah* principles prohibiting waste. Both examined programs—the Aceh Tamiang academic-volunteer collaboration and the Batu Busuak Singapore-Indonesia partnership—employed distinct strategies (volunteer mobilization, local procurement, international network leverage) that minimized resource waste while ensuring adequate humanitarian coverage.

The achieved cost-per-household ratios (IDR 380,000–513,000) represent reasonable efficiency levels for emergency food assistance, with neither program exhibiting indicators of *isrāf*. Strategic decisions—local procurement avoiding transportation costs, volunteer integration minimizing personnel expenses, systematic documentation preventing duplicate distribution—actively served the *maqāṣid* objective of optimal resource deployment.

The analysis also identifies the integration of efficiency within broader ethical commitments as a distinctive feature of Islamic disaster relief. Both programs accepted higher per-unit costs for door-to-door delivery to vulnerable populations, reflecting the *maqāṣid* hierarchy prioritizing *ḥifẓ al-nafs* over pure cost minimization. This principled approach to efficiency-coverage trade-offs offers normative guidance absent from secular humanitarian logistics frameworks.

Based on these findings, the following policy recommendations are proposed for *sharī'ah*-compliant disaster relief administration:

**Recommendation 1: Develop Pre-positioned Procurement Protocols.** Islamic disaster relief organizations should establish approved vendor lists, framework agreements, and pre-negotiated pricing enabling rapid local procurement during emergencies. These protocols should prioritize suppliers meeting *halal* requirements while offering competitive pricing, converting procurement preparation into efficiency gains during actual emergencies.

**Recommendation 2: Formalize Volunteer Capacity Building.** Following the Aceh Tamiang model, Islamic educational institutions should develop formalized volunteer training programs, standby rosters, and coordination mechanisms enabling rapid mobilization. Regular disaster

simulation exercises would enhance volunteer readiness while building institutional capacity for efficient emergency response.

**Recommendation 3: Cultivate International Philanthropy Networks.** The Batu Busuak model demonstrates that relationships established through routine religious programs can be activated for emergency response. Islamic institutions should consciously develop such networks, recognizing their dual value for regular programming and disaster response capacity.

**Recommendation 4: Implement Efficiency Reporting Standards.** Islamic disaster relief programs should adopt standardized financial reporting enabling efficiency assessment. Minimum reporting requirements should include: total resources, beneficiary counts, cost-per-beneficiary ratios, and allocation across operational categories. These standards would enable benchmarking, accountability, and continuous improvement.

**Recommendation 5: Establish Shari‘ah-Compliant Efficiency Metrics.** The Indonesian Islamic philanthropic sector should develop comprehensive efficiency metrics integrating both quantitative indicators (cost ratios, beneficiary coverage) and qualitative assessments (waste avoidance, vulnerable population inclusion). These metrics should be grounded in maqāṣid principles, ensuring that efficiency measurement serves—rather than compromises—humanitarian objectives.

Through these measures, Islamic disaster relief can more fully realize its shari‘ah commitments—ensuring that charitable resources are deployed efficiently toward humanitarian objectives, avoiding the waste that violates stewardship obligations, while never sacrificing the vulnerable populations whose protection constitutes the ultimate purpose of such programs.

## Reference

- Abd Wahab, Norazlina, and Abdul Rahim Abdul Rahman. “A Framework to Analyse the Efficiency and Governance of Zakat Institutions.” *Journal of Islamic Accounting and Business Research* 2, no. 1 (2011): 43–62. <https://doi.org/10.1108/17590811111129508>.
- Al-Ghazālī, Abū Ḥāmid Muḥammad ibn Muḥammad. *Iḥyā’ ‘Ulūm Al-Dīn*. Vol. 4. Beirut: Dār al-Ma‘rifah, n.d.
- Al-Shāṭibī, Abū Ishāq Ibrāhīm. *Al-Muwāfaqāt Fī Uṣūl Al-Shari‘ah*. Beirut: Dār al-Kutub al-‘Ilmiyyah, 1997.
- Ali, Salman Syed. *Towards a Maqāṣid Al-Shari‘ah Index of Socio-Economic Development: Theory and Application*. Cham: Palgrave Macmillan, 2019.
- Balcik, Burcu, Benita M Beamon, Caroline C Krejci, Kyle M Muramatsu, and Magaly Ramirez. “Coordination in Humanitarian Relief Chains: Practices, Challenges and Opportunities.” *International Journal of Production Economics* 126, no. 1 (2010): 22–34. <https://doi.org/10.1016/j.ijpe.2009.09.008>.
- Chandra, Dori, Taufik Hidayat, Tiy Kusmarrabbi Karo, Indra, Andri Rivai, and Ade Muhammad Ritonga. “The Collaboration of Academics, Students, and Volunteers in Responding to the Aceh Tamiang Flood Disaster: A Participatory Action Research-Based Aid Distribution Model.” *Al-Arkhabii: Jurnal Pengabdian Masyarakat* 5, no. SI-1 (2025): 2–20.
- Chapra, M Umer. *The Future of Economics: An Islamic Perspective*. Leicester: The Islamic Foundation, 2000.

- Djaghballou, Chams-Eddine, Mohamed Djaghballou, Mousa Larbani, and Azhar Mohamad. "Efficiency and Productivity Performance of Zakat Funds in Algeria." *International Journal of Islamic and Middle Eastern Finance and Management* 11, no. 3 (2018): 474–94. <https://doi.org/10.1108/IMEFM-07-2017-0185>.
- Hasan, Nurdin, and Ahmad Nizar Yogatama. "Islamic Philanthropy and Social Justice: The Role of Islamic CSR in Indonesia." *Kyoto Bulletin of Islamic Area Studies* 6 (2013): 85–105.
- Hassan, M Kabir, and Mervyn K Lewis. *Handbook on Islam and Economic Life*. Cheltenham: Edward Elgar Publishing, 2015.
- Holguín-Veras, José, Miguel Jaller, Luk N Van Wassenhove, Noel Pérez, and Tricia Wachtendorf. "On the Unique Features of Post-Disaster Humanitarian Logistics." *Journal of Operations Management* 30, no. 7–8 (2012): 494–506. <https://doi.org/10.1016/j.jom.2012.08.003>.
- Holguín-Veras, José, Noel Pérez, Miguel Jaller, Luk N Van Wassenhove, and Felipe Aros-Vera. "On the Appropriate Objective Function for Post-Disaster Humanitarian Logistics Models." *Journal of Operations Management* 31, no. 5 (2013): 262–80. <https://doi.org/10.1016/j.jom.2013.06.002>.
- Ibn 'Āshūr, Muḥammad al-Ṭāhir. *Maqāṣid Al-Shari'ah Al-Islāmiyyah*. Jordan: Dār al-Nafā'is, 2001.
- Kamali, Mohammad Hashim. *Principles of Islamic Jurisprudence*. 3rd rev. ed. Cambridge: Islamic Texts Society, 2006.
- Kamaruddin, Muhammad Iqmal Hisham, and Mustafa Mohd Hanefah. "An Empirical Investigation on Waqf Governance Practices in Waqf Institutions in Malaysia." *Journal of Financial Reporting and Accounting* 19, no. 3 (2021): 455–73. <https://doi.org/10.1108/JFRA-03-2020-0055>.
- Kovács, Gyöngyi, and Karen M Spens. "Humanitarian Logistics in Disaster Relief Operations." *International Journal of Physical Distribution & Logistics Management* 37, no. 2 (2007): 99–114. <https://doi.org/10.1108/09600030710734820>.
- Özdamar, Linet, and Mustafa Alp Ertem. "Models, Solutions and Enabling Technologies in Humanitarian Logistics." *European Journal of Operational Research* 244, no. 1 (2015): 55–65. <https://doi.org/10.1016/j.ejor.2014.11.030>.
- Ramdani, Ramdani, Tika Widiastuti, and Imron Mawardi. "Implementation of Islamic Values in Waqf Governance: A Systematic Literature Review." *Journal of Islamic Marketing* 15, no. 8 (2024): 1925–41. <https://doi.org/10.1108/JIMA-03-2023-0079>.
- Riyadi, Slamet, Arbonas Lubis, Fian Triadi, Dirja Hasugian, Zulham Effendi, Muhammad Syarif Muda Hasibuan, Khairul Anhar, Syahri Ramadona, and Muhajirah Binti Jamaluddin. "Humanitarian Aid for Flash Flood Victims in Batu Busuak: An International Collaboration Between STAI As-Sunnah and Bayaan Association Singapore." *Al-Arkhabiil: Jurnal Pengabdian Masyarakat* 5, no. SI-1 (2025): 22–31.
- Saad, Ram Al Jaffri, Aidi Ahmi, Norfaieqah Sawandi, and Noor Afza Abdul Aziz. "Zakat Administration Reformation Towards an Effective and Efficient Zakat Revenue Generation." *Journal of Islamic Accounting and Business Research* 14, no. 8 (2023): 1232–60. <https://doi.org/10.1108/JIABR-05-2021-0151>.
- Tag el-Din, Seif Ibrahim. *Maqasid Foundations of Market Economics*. Edinburgh: Edinburgh University Press, 2013.
- Wassenhove, Luk N Van. "Humanitarian Aid Logistics: Supply Chain Management in High Gear."

*Journal of the Operational Research Society* 57, no. 5 (2006): 475–89.  
<https://doi.org/10.1057/palgrave.jors.2602125>.

Zobel, Christopher W, Nezhil Altay, and Mark P Haselkorn. *Advances in Managing Humanitarian Operations*. Cham: Springer, 2016.