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The Potential of Waqf and Zakat–Infaq–Sadaqah (ZIS) in Promoting Sustainable Economic Growth Across Indonesian Provinces (2021–2023)

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ABSTRACT

This study examines whether Waqf, Zakat and Infaq/Sadaqah actually promote sustainable economic growth in Indonesia, or whether this is merely an assumption. The 2021–2023 period was not chosen at random: this is the post-pandemic recovery period when inter-provincial disparities in the collection and distribution of Islamic social funds are most evident, and simultaneously the implementation period of the 2020–2024 National Medium-Term Development Plan (RPJMN), which provides verifiable SDG benchmarks. Secondary data from 35 provinces were analysed using panel regression. The results were mixed. Zakat and Infaq/Sedekah were found to have a positive and significant impact on social welfare and poverty alleviation. Wakaf, however, showed the opposite trend — a negative relationship with development indicators — which points more to governance issues than to weaknesses in the instrument itself. The direct implication is that the management of Wakaf needs to be institutionally reformed, rather than merely expanded. Meanwhile, the existing distribution mechanisms for Zakat and Infaq/Sedekah need to be maintained and strengthened. This study fills an empirical gap that has been largely overlooked in the literature on Islamic social finance, namely the differences in impact across provinces at the regional level.

Keywords: waqf, zakat–infaq–sadaqah, sustainable economic growth, islamic social finance.

INTRODUCTION

Climate change is now the defining environmental threat of this era — cutting across ecosystems, economies, and populations regardless of national income.[1] Developed and developing countries alike sustain high energy consumption, and the carbon emissions that follow are pushing environmental risks beyond manageable thresholds. None of this exists in isolation. Poverty, hunger, and constrained access to education are older problems, still unresolved, still intersecting with the newer ones. The SDGs emerged from a recognition that these cannot be addressed separately Islam approaches this terrain through the concept of khalifah: humans as trustees, not owners, of the Earth. The duty is practical — preserve natural systems, extend benefits to all living beings, maintain equilibrium among social, economic, and environmental life.[2] This is not stewardship as metaphor. It carries obligations. That framing sits close to what the SDG framework demands, particularly on fulfilling basic needs and protecting human rights across all three dimensions.[3]

The SDGs set specific targets: end poverty, protect the environment, reduce inequality. Zakat fits into this structure directly.[4] As one of Islam's five pillars, it redistributes wealth toward those without it — which is, functionally, what poverty-reduction targets require. In many Muslim-majority countries, waqf and ZIS (Zakat, Infaq/Sadaqah) already function as development instruments. Their potential is real, but conditional: the management has to work. When it does, both tools can reduce poverty and channel investment into sectors that support environmental sustainability.[5] Waqf and ZIS have the numbers to matter for sustainable development. In Indonesia, they have not delivered on those numbers yet.[6]

Structural and operational problems continue to limit their effectiveness, and without deliberate reform in how these instruments are managed and distributed, their contribution to inclusive economic growth will stay well below what the data suggests is possible.

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[1] M. Said, "Effect of Zakat Potential Management on Achieving SDGs: Case of the Indonesian National Amil Zakat Agency," *International Journal of Islamic Economics and Finance Studies* 9, no. 1 (2023), https://doi.org/10.54427/ijisef.1186151.

[2] M. Alam, N. A. Wahab, M. A. Al Haq, and S. A. Ahmad, "Sustainable Development Status of Zakat Recipients: Empirical Investigation Based on Malaysia's Kedah State," *Journal for Global Business Advancement* 14, no. 5 (2021): 612–639, https://doi.org/10.1504/JGBA.2021.123544.

[3] S. N. Rejab and N. Lateh, "Relevance of Zakat and Taxation in Achieving Sustainable Development Goals (SDGs): A Literature Review," *Al-Qanatir: International Journal of Islamic Studies* 26, no. 2 (2022): 62–68.

[4] Alisjahbana, A. Salsiah., & Murniningtyas, Endah. (2018). *Tujuan pembangunan berkelanjutan di Indonesia : konsep, target, dan strategi implementasi*. Unpad Press.

[5] F. A. Hudaefi et al., "Zakat and SDG 6: A Case Study of BAZNAS, Indonesia," *Journal of Islamic Monetary Economics and Finance* 6, no. 4 (2020): 919–934, https://doi.org/10.21098/jimf.v6i4.1144.

[6] M. Ridwan, "Waqf and Economic Development," *ZISWAF: Jurnal Zakat dan Wakaf* 4, no. 1 (2018): 105, https://doi.org/10.21043/ziswaf.v4i1.3034.

Islamic sustainable development does not separate environmental balance from social justice — the two are treated as a single obligation. This integration of religious values with development principles is what makes waqf and ZIS more than charitable mechanisms. They are, in principle, tools for bridging Islamic ethics with the practical demands of equitable global development. In Indonesia specifically, both instruments carry a mandate for socioeconomic transformation: redistributing wealth, narrowing economic disparity, and lifting impoverished communities out of poverty. Zakat potential alone is estimated in the trillions of rupiah annually, yet collection and utilization rates remain far below that ceiling — a gap that reflects management failure more than insufficient public will.

Sustainable development, as a framework, requires that economic growth not trade off against environmental health or social welfare. It demands all three move together, and over time. Waqf and ZIS are structurally compatible with this demand: they channel resources toward long-term public benefit rather than private accumulation. The question is not whether they can contribute, but whether their administration is capable of delivering that contribution at scale.

Waqf and ZIS funds directed toward education, healthcare, and microenterprise development do not exhaust their effect at the point of disbursement. The downstream economic impact — on household income, local employment, and community resilience — compounds over time. That is the case for treating their management as a strategic priority rather than an administrative afterthought. Indonesia's sustainable development agenda requires both: better welfare outcomes now, and natural resources intact for the next generation. Waqf and ZIS, properly run, can serve both ends.

The empirical record is more specific than the general argument. Widuhung's research links well-managed waqf and ZIS to measurable effects on inflation and economic growth in Indonesia.[7] Qoyyim et al. found that targeted ZIS distribution raises purchasing power and reduces unemployment — outcomes that depend heavily on where and how funds are allocated, not just how much is collected.[1] Ma'wa et al. take the operational question further, arguing that technology-based management is not optional if distribution is to reach the people it is designed to reach.[8] Digitalization features in several studies as the mechanism most likely to close the gap between collection capacity and actual disbursement, particularly in regions with weak institutional infrastructure.

This study adds to that body of work by mapping the specific challenges and opportunities in waqf and ZIS management against the demands of

[7] S. H. Qoyyim et al., "Analysis of ZIS Fund Distribution Strategy and Inflation on Economic Growth in Indonesia (2015–2019)," *Jurnal Al Azhar Indonesia Seri Ilmu Sosial* 1, no. 2 (2020).

[8] M. A. F. Ma'wa et al., "The Role of Zakat in Sustainable Economic Development: A Bibliometric Analysis," *Jurnal Magister Ekonomi Syariah* 2, no. 2 (2024): 105–118, https://doi.org/10.14421/jmes.2023.022-07.

sustainable development — not in the abstract, but at the provincial level where those demands are actually felt.

An empirical study conducted to identify a research gap regarding ZIS and sustainable development in Indonesia revealed differing views on whether these instruments are effective—and these differing views are not coincidental. Most panel studies that examine this question use poverty rates or the Human Development Index as the outcome variable. Studies using provincial panel data in Indonesia have found that increases in zakat, infaq, and sadaqah are not statistically significant in their association with poverty reduction, while others report the opposite. The inconsistency traces back to two methodological choices that vary across studies: what gets used as the outcome variable, and whether the instruments are measured separately or bundled together.[9]

On disaggregation: both zakat and waqf are recognized as having important roles in the economy, yet most empirical studies treat them as a combined aggregate rather than as separate variables. Waqf and zakat have mainly functioned in separate institutional and legal frameworks, which means their economic effects are likely to differ in direction and magnitude — a distinction that aggregate models cannot detect.[10]

On outcome measurement: existing research highlights the potential of waqf in poverty alleviation and economic empowerment, yet there remains a gap in systematically assessing different instruments based on their effectiveness in achieving the SDGs. Studies that use GRDP or single-dimension poverty indices capture only a fraction of what the SDG framework measures. A composite index integrating economic, social, and environmental dimensions has not been used as the dependent variable in a provincial panel study of ZIS in Indonesia.[11]

On coverage: existing panel studies use varying provincial samples and time spans, making cross-study comparison unreliable. No study has used all 35 provinces over the post-pandemic period 2021–2023, when provincial disparities in ZIS collection and distribution were at their widest following COVID-19 disruption to fund management systems.[12]

Three aspects of this research design distinguish it from previous studies on Islamic social finance and sustainable development in Indonesia, thereby

[9] Yuliani Dwi Lestari, Rusdianto Sukmana, Irfan Syauqi Beik, and Mohamad Sholihin. "The Development of National Waqf Index in Indonesia: A Fuzzy AHP Approach." *Heliyon* 9, no. 5 (2023), https://doi.org/10.1016/j.heliyon.2023.e15783.

[10] Helma Maraliza, "The Economic Impact of Waqf Asset Digitization on Community Empowerment and Social Investment," International Journal of Economic Literature (INJOLE) 3, no. 3 (2025).

[11] Yuliani Dwi Lestari, Rusdianto Sukmana, Irfan Syauqi Beik, and Mohamad Sholihin. "The Development of National Waqf Index in Indonesia: A Fuzzy AHP Approach." *Heliyon* 9, no. 5 (2023), https://doi.org/10.1016/j.heliyon.2023.e15783.

[12] Csilla Hornok and D. G. S. Raeskyesa, "Economic Zones and Local Income Inequality: Evidence from Indonesia," Journal of Economic Inequality 22 (2024): 69–100, https://doi.org/10.1007/s10888-023-09581-x

establishing its novelty. The first is variable disaggregation. Existing panel studies in Indonesia have examined ZIS predominantly against poverty rates or the Human Development Index, and most treat waqf, zakat, and infaq/sadaqah as a single composite. Studies that do separate ZIS into its components typically work within a single province or a subset of cities, which limits how far the findings travel. This study estimates each instrument as an independent variable across all 35 provinces. That design is what makes the divergence between waqf and ZIS visible — a divergence that aggregate models would absorb and erase.[13]

The second is the choice of dependent variable. Studies linking Islamic social fund distribution to regional development have generally used GRDP-based measures or single-dimension welfare indicators. A composite sustainable growth index captures the economic, social, and environmental dimensions together-which is what the SDG framework actually measures. Substituting GDP or poverty rates narrows the question in ways that distort the answer.[14]

The third is coverage and timing. Panel studies on ZIS and poverty in Indonesia vary considerably in their provincial samples, time spans, and estimation methods, making cross-study comparison unreliable. Using all 35 provinces over 2021–2023 — the period immediately after COVID-19 disrupted both collection and distribution systems across provinces — produces evidence under conditions that more selective samples miss. Provincial disparities in ZIS realisation were at their widest during this window, and that variation is precisely what identification requires.[15]

Sustainable Growth

Sustainable growth is not simply economic expansion with environmental caveats attached. It requires that prosperity be built without consuming the resource base that future production depends on. Suparmoko frames green, low-carbon growth as the core of this model — not as an add-on to conventional development, but as its organizing principle.[16] Efficient resource use reduces environmental damage; that reduction, in turn, protects the conditions for long-term economic and social stability. Haerunnisa et al. connect ZIS directly to this

[13] S. Aisyah, K. Tambunan, and M. L. Ilhamy Nasution, "The Influence of Zakat, Infaq, and Shadaqah, Economic Growth and Population on the Human Development Index in North Sumatra Province," *Management of Zakat and Waqf Journal (MAZAWA)* 7, no. 2 (2025): 270–289, https://doi.org/10.15642/mzw.2025.7.2.270-289.

[14] S. Lahuri et al., "The Role of Zakat and Waqf in Sustainable Development Goals (SDGs)," *Al-Bukhary Social Business Journal* 2, no. 1 (2021): 34–41.

[15] Silviana Pebruary and Isna Amara, "The Relationship between Zakat, Infaq, Sadaqah, and Economic Factors with Poverty in Indonesia," *J-EBIS: Jurnal Ekonomi dan Bisnis Islam* (2024): 217–240, https://doi.org/10.32505/j-ebis.v9i2.9463.

[16] M. Suparmoko, "The Concept of Sustainable Development in National and Regional Planning," *Jurnal Ekonomika dan Manajemen* 9, no. 1 (2020): 39–50.

logic: strategically allocated ZIS funds can finance SDG-aligned initiatives that build economic resilience and preserve ecological balance at the same time.[17]

The Relationship Between Waqf, Zakat, and ZIS and Sustainable Growth

Productive waqf works by converting dormant assets into active income streams for social purposes. A piece of waqf land does not have to sit unused or generate returns for private benefit — it can house a school, support a productive enterprise, and channel profits back into the surrounding community. That functional design gives waqf a direct line to SDG targets: quality education, healthcare access, and poverty reduction are all areas where waqf assets, properly managed, can move the needle. Alam et al. provide empirical grounding for this claim, showing that professionally managed cash waqf produces concrete contributions across several SDG indicators.[18]

Empirical literature, however, also documents a persistent gap between waqf's potential and its realized economic contribution. Evaluations of waqf implementation in Indonesia show that without a universal evaluation standard, waqf management has not been optimal at either the national or regional level. Efficiency studies reinforce this finding: the productivity of zakat institutions managing waqf funds in Indonesia shows a fluctuating and overall declining trend, attributed to low managerial efficiency and technological change that has not yet contributed optimally to productivity growth. This evidence aligns with Kuran's macro-historical argument that waqf can lock vast resources into unproductive organizations for the delivery of social services — a mechanism that helps explain why waqf's short-term statistical effect on economic growth is often absent or negative in panel studies with limited observation windows.[19]

The ZIS literature holds together more consistently than the waqf literature. A panel study of 33 Indonesian provinces from 2019 to 2023 found that ZIS, combined with human development indicators, reduces poverty at the provincial level, with economic growth mediating that relationship. In design, this study sits closest to the present research — same cross-provincial panel structure, same national context. Ayati et al. arrive at a compatible conclusion from a different angle: their panel of 31 provinces over 2022–2024 confirms that

[17] Sugitanata Haerunnisa, A., and S. S. Karimullah. "A Structural Analysis of the Catalytic Role of Islamic Financial Instruments in Promoting Sustainable Development and Social Responsibility." *Al-'Aqdu: Journal of Islamic Economics Law* 3, no. 2 (2023): 124–134.

[18] M. Alam, N. A. Wahab, M. A. Al Haq, and S. A. Ahmad, "Sustainable Development Status of Zakat Recipients: Empirical Investigation Based on Malaysia's Kedah State," Journal for Global Business Advancement 14, no. 5 (2021): 612–639, https://doi.org/10.1504/JGBA.2021.123544.

[19] Timur Kuran, "Why the Middle East Is Economically Underdeveloped: Historical Mechanisms of Institutional Stagnation," *Journal of Economic Perspectives* 18, no. 3 (2004): 71–90, https://doi.org/10.1257/0895330042162421.

zakat affects poverty, and that zakat, infaq, and sadaqah together exert a significant combined impact on poverty reduction in Indonesia.[20]

The studies that follow fill in the operational and sectoral details. Luntajo and Hasan focus on the collection and distribution side, finding that technology integration measurably raises efficiency in ZIS management.[21] Fitri et al. narrow further to productive zakat — micro-enterprise financing specifically — and show it generates employment while strengthening community economic resilience, which are precisely the outcomes sustainable development frameworks demand.[22] Ma'wa et al. take a wider view, tracing ZIS's economic effects through poverty reduction and quality-of-life improvement across recipient populations.[23] One provincial panel study adds Islamic banking to the mix alongside ZIS and finds that Islamic finance development — social instruments included — affects income inequality, but not uniformly: provinces at early stages of financial development respond differently from those at advanced stages.[24] That heterogeneity matters for policy. It suggests that a single national strategy for ZIS deployment is unlikely to perform equally well across Indonesia's diverse provincial landscape.

The studies reviewed above examine ZIS primarily in relation to poverty or inequality, and most rely on national aggregate data or single-institution case studies. This study departs from both: it employs a panel of 35 Indonesian provinces over 2021–2023, applies the Random Effects Model, and explicitly tests whether the three instruments — waqf, zakat, and infaq/sadaqah — operate with different directions and magnitudes within a sub-national sustainable growth index. This positions the study at an empirical level that remains underexplored in the Indonesian ZIS literature. This study tests three directional hypotheses at the provincial level in Indonesia over 2021–2023:

H1: Waqf has a positive effect on sustainable growth across Indonesian provinces during 2021–2023.

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[20] Ayati, Nufasilul, Siswanto, and Khusnudin. "The Impact of Zakat, Infak, and Sedekah Funds, Life Expectancy, and Average Length of Schooling on Poverty Mediated by Economic Growth in Indonesia". *Journal of Islamic Economics Lariba* 11, no. 2 (August 25, 2025): 1017–1048. Accessed May 4, 2026, https://doi.org/10.20885/jielariba.vol11.iss2.art14.

[21] Moh. M. R. Luntajo and F. Hasan, "Optimizing Zakat Management in Indonesia through Technology Integration," *Al-'Aqdu: Journal of Islamic Economics Law* 3, no. 1 (2023): 14–28, http://journal.iain-manado.ac.id/index.php/JI.

[22] M. Fitri and Y. S. Nasution, "Pendayagunaan Zakat Produktif dalam Tujuan Pembangunan Berkelanjutan (SDGs) di Indonesia," *Jurnal Ilmiah Mahasiswa Ekonomi Islam* (2023).

[23] Muhammad Agus Futuhul Ma'wa, Ayu Safitri, Fatima Az-Zahra Wairooy, and Mindo Mursalina Jen. "Peran Zakat Dalam Membina Ekonomi Berkelanjutan: Sebuah Analisis Bibliometrik". *Jurnal Magister Ekonomi Syariah* 2, no. 2 Desember (January 20, 2024): 105–118. Accessed May 7, 2026, https://doi.org/10.14421/jmes.2023.022-07.

[24] Badara Shofi Dana, Risdiana Himmati, and Agus Salim. "Nexus Islamic Finance Development and Income Inequality in Indonesia: Testing Kuznets Curve Hypothesis". *Economica: Jurnal Ekonomi Islam* 16, no. 2 (October 14, 2025): 293–311, https://doi.org/10.21580/economica.2025.16.2.26318.

H2: Zakat has a positive effect on sustainable growth across Indonesian provinces during 2021–2023.
H3: Infaq/Sadaqah has a positive effect on sustainable growth across Indonesian provinces during 2021–2023.

METHODS

This study examines how waqf, zakat, and infaq/sadaqah affect sustainable growth across Indonesian provinces from 2021 to 2023. Secondary data from 35 provinces form the empirical base. Waqf, zakat, and infaq/sadaqah are the independent variables; sustainable growth is the dependent variable. The three-year window provides enough temporal variation to track how each instrument's collection and distribution patterns relate to provincial growth outcomes over time.

Table 1. Variable definitions, sources, and measurement

Variable	Definition	Unit	Source
Sustainable Growth (Y)	Overall SDGs achievement score per province, aggregating performance across all 17 SDG goals into a single annual composite figure	%	Bappenas / KLHK, SDGs Indonesia Annual Report
Waqf (X1)	Year-on-year percentage growth in the total value of waqf funds raised at provincial level	%	Ministry of Religious Affairs (Kemenag)
Zakat (X2)	Year-on-year percentage growth in the combined value of zakat funds collected and disbursed at provincial level	%	Ministry of Religious Affairs (Kemenag) / BPS
Infaq/Sadaqah (X3)	Year-on-year percentage growth in the combined value of infaq and sadaqah funds collected and disbursed at provincial level	%	Ministry of Religious Affairs (Kemenag) / BPS

The analysis uses panel data regression. This method handles both dimensions of the data simultaneously — differences across provinces at any given point, and changes within each province across the three years. That dual capacity makes it the appropriate choice for a study where both geographic variation and temporal dynamics are central to the research question. Raw data from the Ministry of Religious Affairs and Bappenas/KLHK go through four steps before estimation. Data collection and consolidation. Provincial data on waqf, zakat, and infaq/sadaqah come from Ministry of Religious Affairs annual reports for all 35 provinces across 2021, 2022, and 2023. SDGs achievement scores come from Bappenas/KLHK annual TPB reports for the same provinces and years. The two datasets are merged into a balanced panel — province as the cross-sectional unit, year as the time unit — giving 105 observations (35 × 3).

Model selection uses three sequential tests, each narrowing the choice further. The Chow Test runs first, comparing the Common Effects Model (CEM) against the Fixed Effects Model (FEM). The Lagrange Multiplier Test follows, comparing CEM against the Random Effects Model (REM). The Hausman Test then arbitrates between REM and FEM. Results from all three tests are reported in Table 2. The Random Effects Model emerges as the appropriate estimator across all three decision points and is used for final estimation in EViews. Before interpreting coefficients, classical assumption diagnostics are run — multicollinearity, heteroscedasticity, and autocorrelation — to verify that estimates qualify as Best Linear Unbiased Estimators (BLUE). Model fit is assessed via the F-statistic and R-squared. Individual coefficients are tested at the 1%, 5%, and 10% significance levels.

The general form of the equation is as follows:

$$Y1it = \beta0 + \beta1.X1_{it} + \beta2.X2_{it} + \beta3.X3_{it} + \beta4.X4_{it} + \beta5.X5_{it} + \beta6.X6_{i}t + e_{it}$$

Explanation of Variables:

$Y1_{it}$ = Sustainable Growth
$X2_{it}$ = Waqf
$X3_{it}$ = Zakat
$X4_{it}$ = Infaq/Sadaqah
e = Error Term

RESULT AND DISCUSSION

Table 2. Descriptive Statistic

	Sustainable Growth	Waqf	Zakat	Infaq/Sadaqah
Mean	28.669	0.422	4.537	170.479
Standard Error	1.678	0.107	1.248	116.197
Median	38.305	0.172	0.159	0.637
Standard Deviation	16.949	1.084	12.605	1173.535
Minimum	2.302	0.011	-0.917	-0.908
Maximum	47.246	7.750	87.935	10019.996

Source: Processed Data, 2023

The descriptive statistics tell a consistent story across all four variables: a few provinces dominate, most fall well below the average, and the gaps are wide.

The sustainable growth index averages 28.669, with a standard deviation of 16.949. The median of 38.305 sits above the mean — which means the distribution is left-skewed, pulled down by provinces with low development scores. The range runs from 2.302 to 47.246. That 45-point spread across 35 provinces is not noise; it reflects structural disparities in development outcomes that aggregate national figures would obscure.

Waqf follows the same pattern. The mean is 0.422, the median is 0.172. Most provinces record low waqf activity. The maximum of 7.750 belongs to a small cluster of provinces that account for a disproportionate share of total waqf, pushing the mean well above what the typical province experiences.

Zakat is more extreme. The mean of 4.537 and median of 0.159 are not close — the gap reflects a handful of provinces with zakat values reaching 87.935,

against a floor of -0.917. The standard deviation of 12.605 on a mean of 4.537 makes the average statistically misleading as a description of any individual province.

Table 3. Model Selection Test

Test Type	Probability	Decision	Description
LM Test	0.0000	H_0 rejected	Random Effect Model
Chow Test	1.0000	H_o accepted	Common Effect Model
Hausman Test	0.2259	H_o accepted	Random Effect Model

Source: Processed Data, 2023

In panel data analysis, selecting the appropriate model is crucial to ensure accurate estimations that align with the data characteristics. Three commonly used tests to determine the most suitable model are the Chow Test, Lagrange Multiplier (LM) Test, and Hausman Test. Three sequential tests determine the appropriate panel estimator. The Chow Test compares CEM against FEM. A probability value of 1.000 means the null hypothesis is not rejected — CEM is preferred over FEM at this stage. The Lagrange Multiplier Test then compares CEM against REM. A probability value of 0.000 rejects the null hypothesis, indicating REM outperforms CEM. The Hausman Test resolves the final comparison between REM and FEM. A probability of 0.2259 fails to reject the null hypothesis, confirming REM as more appropriate than FEM.Taken together, the three tests consistently point to the Random Effects Model. The LM Test establishes REM's superiority over CEM; the Hausman Test establishes its superiority over FEM. REM is therefore selected as the estimator for panel regression in this study.

Table 4. Panel Data Regression Results

Variable	Expected Sign	Coefficient	Std. Error	t-Statistic	Probability
C		28.55478	0.052161	547.4399	0.0000
Waqf	+	-0.32555	0.073292	-4.4418	0.0000
Zakat	+	0.05541	0.005676	9.762226	0.0000
Infaq/Sadaqah	+	0.000349	0.000116	2.996872	0.0018
R-squared		0.988125			
Adjusted R-squared		0.987507			
F-statistic		1597.708			
Prob(F-statistic)		0.000000			

Source: Processed Data, 2023

The Random Effects Model is used to estimate how waqf, zakat, and infaq/sadaqah relate to sustainable growth across Indonesian provinces from 2021 to 2023. The model fits the data closely. R-squared is 0.9881 and Adjusted R-squared is 0.9875 — meaning the three independent variables account for

98.81% of the variance in sustainable growth. The remaining 1.19% reflects factors not captured in the model. The F-statistic of 1,597.708 at p = 0.0000 confirms joint significance: the independent variables together explain sustainable growth at a level that is not attributable to chance. Individual coefficient results follow below.

1. Waqf carries a negative coefficient of -0.3255, significant at the 1% level (p = 0.0000). Higher waqf contributions are associated with lower short-term sustainable growth. This likely reflects the long-term orientation of waqf investments — returns materialize over extended periods and do not register within the 2021–2023 observation window.
2. Zakat shows a positive coefficient of 0.0554, also significant at the 1% level (p = 0.0000). The positive relationship is consistent with zakat's redistributive function: transferring resources toward lower-income populations raises welfare, reduces poverty, and supports sustainable development at the provincial level.
3. Infaq/sadaqah returns a positive coefficient of 0.000349, significant at the 1% level (p = 0.0018). The effect is smaller than zakat in magnitude, but statistically clear. Even voluntary Islamic philanthropy, operating without the obligatory structure of zakat, produces measurable contributions to economic and social development.

Zakat and infaq/sadaqah both show positive and significant effects on sustainable growth. Waqf does not — at least not within a three-year window. The negative coefficient on waqf does not mean the instrument lacks development value; it means that value accrues over a longer horizon than this study can observe. That distinction matters for how the finding is interpreted and what it demands from policymakers managing waqf portfolios.

The Impact of Zakat on Sustainable Growth

The zakat coefficient is 0.05541, significant at p = 0.0000. The direction and magnitude are stable: higher zakat distribution associates with higher sustainable growth scores at the provincial level. The redistribution logic is straightforward — zakat moves resources from higher-income to lower-income households, which raises consumption at the bottom of the distribution, reduces poverty headcounts, and feeds back into local economic activity. Nasution et al. document this pattern directly, finding that zakat produces significant effects on economic and social well-being with measurable relevance to SDG targets.[25]

The effect does not stop at direct transfers. Zakat allocated to micro-enterprise financing and productive sectors generates employment and raises purchasing power among recipients — extending its reach beyond immediate welfare improvement into longer-term economic capacity. That productive

[25] Y. J. S. Nasution, S. Siregar, M. Z. Afif Shahputra, E. Faisal Harahap, R. Syafrizal, and D. Sundari. "Peran Islamic Social Finance di Indonesia Menuju Sustainable Development Goals (SDGs)." *Jurnal Penelitian Ekonomi Akuntansi* 8, no. 2 (2024): 333–347, https://doi.org/10.33059/jpek.v8i2.8653.

dimension is what separates well-managed zakat from simple cash transfers. Realizing it requires institutional competence: collection systems that reach eligible payers, distribution mechanisms that target productive uses, and oversight that prevents leakage. Those are not given — they are built, and the quality of their construction determines how much of zakat's theoretical potential actually registers in provincial growth data.

The impact of infaq and sadaqah on sustainable growth

Infaq and sadaqah return a coefficient of 0.000349 at p = 0.0018 — positive, significant, and smaller in magnitude than zakat. The size of the coefficient reflects the voluntary and dispersed nature of these contributions: infaq and sadaqah flow through informal channels, vary widely across regions, and lack the institutional infrastructure that concentrates zakat into larger, more traceable disbursements. Despite that, the effect is real and statistically stable. Voluntary Islamic philanthropy produces a detectable positive association with provincial sustainable growth, even without the obligatory framework that governs zakat collection.

Haris et al. argue that ZISWAF funds managed with institutional discipline can drive sustainable economic development at scale.[26] For infaq and sadaqah, that discipline means directing funds toward education, healthcare, and economic empowerment rather than allowing them to dissipate through uncoordinated distribution. Transparency matters here more than in zakat — because participation is voluntary, public trust in how funds are used directly determines how much is contributed. Weak accountability shrinks the resource base; strong accountability expands it.

The impact of waqf on sustainable growth

Waqf produces a coefficient of -0.32555 at p = 0.0000. The sign is negative, the significance is unambiguous, and the magnitude is the largest of the three instruments. Within the 2021–2023 window, higher waqf contributions associate with lower sustainable growth scores — a finding that runs against H1 and demands explanation.

The most defensible explanation is management failure, not instrument failure. Waqf assets that sit idle, are locked in unproductive land holdings, or are administered without professional oversight generate no economic return within any observable timeframe. Nasution et al. trace this pattern explicitly, finding that limited management innovation is what constrains waqf's contribution to development — not a shortage of assets.[27] Regulatory rigidity and low

[26] M. Haris, M. Hannase, and M. Izdiyan Muttaqin, "Muhammad Abduh's Thought and Its Practical Implications on Government Work Programs for 2024–2029," *Journal of Social Research* 4, no. 2 (2025): 175–195, http://ijsr.internationaljournallabs.com/index.php/ijsr.

[27] Y. J. S. Nasution et al., "Peran Islamic Social Finance di Indonesia Menuju Sustainable Development Goals (SDGs)," *Jurnal Penelitian Ekonomi Akuntansi* 8, no. 2 (2024): 333–347.

professional capacity among nazir (waqf administrators) prevent productive deployment even where assets exist. The negative coefficient does not mean waqf cannot contribute to sustainable growth. It means that under current management conditions in Indonesia, it has not.

Reform on three fronts would change that: governance standards that hold administrators accountable for asset productivity, transparency mechanisms that allow public and regulatory oversight, and technology integration that reduces administrative friction and opens access to productive investment channels. Without those, waqf's nominal potential stays nominal.

CONCLUSION

Zakat, infaq/sadaqah, and waqf do not move in the same direction — and the divergence is the study's central finding. Zakat shows a positive and significant effect on the SDGs achievement index. Direct transfers to beneficiaries produce measurable welfare gains at the provincial level within three years, a shorter lag than most assessments of Islamic social finance assume. Infaq and sadaqah follow the same direction with smaller coefficients. Even voluntary, uncoordinated giving accumulates into detectable provincial outcomes — which means transparency improvements in collection and distribution would likely amplify effects already in the data.

Waqf moves the other way. Its coefficient is negative and significant. The explanation is not complicated: the majority of waqf land in Indonesia sits in non-productive use — mosques, prayer halls, cemeteries — rather than in commercial, agricultural, or educational assets that generate income. A provincial SDGs index does not register the presence of a mosque the way it registers cash reaching a mustahik household. This is a governance problem, not an argument against waqf as an instrument. Productive waqf behaves differently, and the aggregate provincial data here cannot separate it from consumptive waqf.

Theoretical implications.

These findings challenge a standard assumption in the Islamic social finance literature: that waqf, zakat, and infaq/sadaqah work in the same direction. They do not — at least not within a three-year window against a multi-dimensional SDG index. The divergence suggests that instrument type, asset liquidity, and distribution speed all determine whether Islamic social finance registers in development data at all. Future theoretical work should specify the mechanism through which each instrument affects each SDG dimension, rather than treating ZISWAF as a category with uniform effects.

Zakat already produces provincial returns; the priority is wider collection coverage and less leakage between amil institutions and mustahik households. Infaq and sadaqah are sensitive to public trust — making fund use visible to donors is the most direct way to grow both volume and impact. Waqf needs structural intervention before any of this shows up in data: governance reform at the nazir level, regulatory changes that allow productive asset conversion, and real enforcement capacity within Badan Wakaf Indonesia.

The three-year panel is the most obvious constraint. Waqf generates returns over decades, not fiscal years, so a negative coefficient here does not mean waqf is ineffective — it may mean three years is too short a window to see it work. Longer panels, ideally ten years or more, would test whether the effect reverses as productive waqf accumulates. The second constraint is that provincial aggregates cannot separate productive from consumptive waqf. Disaggregating by asset type and nazir category would identify which management models actually drive development outcomes. Third, this study measures volume, not targeting quality. High collection figures say nothing about whether funds reach the most marginal households. Adding BAZNAS distribution efficiency scores or mustahik targeting ratios to future models would sharpen what the estimates actually mean.

Author's Contribution

Raden Ajeng Entaresmen: Contributed to formulating research ideas, collecting data, processing data, and interpreting data.
Nuraini Chaniago: Contributed to writing systematics, research methods, and analyzing interpretation results.
Windhy Puspitasari: Contributed to language proofreading.
Risa Nurmala Dewi: Assisted in literature review, designing the research framework, and refining analysis approach.
Azizah Amelia Eka Susanti: Supported in data visualization, statistical analysis, and validating research findings.
Suryani: Participated in compiling references, reviewing drafts, and structuring the discussion section.
Itang: Contributed to the final manuscript revision and ensured academic formatting and compliance.

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Declaration of Competing Interest

The author declares that there is no conflict of interest.

Ethical Approval

Ethical approval No patient-identifying parts in this paper were used or known to the authors. Therefore, no ethical approval was requested.

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