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Operationalizing Al-Kasb: Economic Sufficiency, Cigarette Expenditure, and Regional Human Development in Indonesia

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Abstract

Regional disparities in human development persist across Indonesia, while Islamic concepts of economic sufficiency and consumption moderation remain empirically underexplored. Drawing on al-Shaybānī's *al-Kasb*, this study examines associations of *kifāyah* (economic sufficiency) and *isrāf* (wasteful consumption) with life expectancy (LE) and mean years of schooling (MYS) across 514 regencies and cities. Using March 2025 Susenas data, *kifāyah* is measured as per capita expenditure relative to 1.5 times the regional poverty line, and isrāf is partly approximated by the cigarette share of total expenditure. The poverty rate serves as a control. Nested ordinary least squares (OLS) models with HC1 robust and province-clustered standard errors are estimated alongside spatial error models. *Kifāyah* is positively and significantly associated with MYS but not LE, whereas *isrāf* and poverty are negatively and significantly associated with both outcomes. These patterns persist under clustered and spatial specifications. Spatial error models yield lower Akaike information criterion (AIC) values than OLS, and residual Moran's I indicates no significant spatial autocorrelation under the specified weights. The findings are consistent with an Islamic economic perspective that links consumption moderation to both outcomes and sufficiency to education, but are associational rather than causal, and the proxies capture only part of al-Shaybānī's thought.

Keywords: Al-Shaybani; Israf; Life expectancy; Mean years of schooling; Spatial error model

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Introduction

In many countries during the last 20 years, economic growth and per capita income increases have not led to a reduction of social inequalities, economic vulnerabilities and major gaps in the quality of life. As a result, many countries became frustrated with the increase in economic growth at the expense of individual human development and quality of life. In 2025, the UN Development Report states that major emphasis is on the need to move beyond economic growth by focusing on the individual to expand choices to live a quality life (UNDP, 2025). In 2013, the OECD extended its well-being framework to the sustainability of well-being over time, focusing on the stocks of economic, natural, human, and social capital that sustain the well-being of future generations (OECD, 2013). As a result, economic capability indicators alone are not sufficient to explain well-being (Sen, 1999; UNDP, 2025).

Within the context of the multidimensional well-being approach, increasing income needs to be accompanied by advancements in the quantity and quality of education, health, and social welfare services (Sen, 1999). Sen is recognized for his capability approach and argued that development should be considered as a transformative process in which the opportunity is given for people to expand their abilities to make more significant life choices. This thinking was subsequently adopted by the World Bank (2025), which noted that countries only achieve high levels of sustainable human well-being in the context of strong, more equitable, and quality institutions and governance. Thus, well-being is the outcome of a complex combination of economic, social, and human development, together with the quality of governance and institutional frameworks (UNDP, 2025; World Bank, 2025).

In the context of Indonesia, while the national Human Development Index (HDI) is continuously improving, social disparities between regencies remain a challenge. Study results from the Central Statistics Agency (Badan Pusat Statistik, 2025a) show high levels of variability in human development across regions due to differences in the quality of human resources. The OECD (2024) highlights that these disparities are one of the main challenges to sustainable development that are generally common in most developing countries, including Indonesia. Therefore, an alternative strategy is required to address regional welfare more thoroughly, including through consumption behavior and orientation of resource utilization.

The abovementioned development paradox has received considerable attention in different branches of Islamic economics. Beyond the field of Islamic

finance, Islamic economics is poised to make a considerable contribution to the field of regional and human development. Starting from the ideas of classical scholars, contemporary Islamic economists, like Chapra (2008) have set further development goals in Islam that aim to achieve human well-being based on the principles of justice and balance. Then Kamali (2019) builds on Chapra's work and argues that, as part of *maqāṣid al-Sharīʿah*, development aims to protect and increase human capacity more holistically.

Some other researchers, like Kader (2021), argue the same in relation to human wellbeing and moral foundations as the base for all economic development and growth. Meanwhile, Khan & Haneef (2022), add that in the context of sustaining development goals, such as the improvement of human capital, reduction of poverty and inequality as well as improved patterns of consumption and use, the relevance of Islamic perspective should not be disregarded. Similarly, Dusuki & Bouheraoua (2011) strengthened the discourse of *maqāṣid al-Sharīʿah* and Islamic Finance and Development from a policy perspective. Studies of this nature are essential to fulfil the need for a theoretical reconciliation of classical Islamic economic thought and the current human development paradigm.

On the same note, it should be highlighted that the field of Islamic economic literature needs to be recast from a normative framework to an empirical and operational framework. In the history of Islamic economic thought, Muhammad ibn *al-Hasan al-Shaybānī* (749–805 CE), was one of the earlier scholars who systematically elaborated the relationship of economic activity with human welfare. *Al-Shaybānī* in his book Kitab *al-Kasb*, argued that working and earning one's living is an outcome of the combination of productivity and sufficiency, and social responsibility to ensure human welfare. This perspective provides ethical and social insights that are not covered by income-centered explanations of welfare. Principles found in this book are still very relevant and useful to serve as one of the theoretical bases for the concept of sustainable human development and particularly for income and resource management (Al-Shaybānī, 1400; Jaapar et al., 2022; Lamondo & Sabon, 2022).

There are at least three main research gaps that form the basis of this study. The first is the theoretical gap, that is, there are not many studies that construct empirical models based on *al-Shaybānī's* idea of *Kasb*, especially for regional development studies. Second, the methodological gap, that is, the dominance of economic indicators in explaining regional welfare, yet still integrating them with Islamic ethical consumption behavior. Third, the policy gap, that is, the lack of regional

development policy frameworks that connect concepts of *al-Kasb*, like *kifāyah* (sufficiency) and *isrāf* (excessive consumption). Starting with these three gaps, this study identifies two main concepts from *al-Kasb*, *kifāyah* and anti-*isrāf*, and integrates them with the *maqāṣid al-Sharīʿah* framework to determine human welfare in 514 regencies or cities in Indonesia. The originality of this study consists in the expansion of the field of Islamic microeconomics and the study of individual behavior to the meso level of regional development and in relating it to the Human Development paradigm (OECD, 2013; UNDP, 2025).

From a scientific point of view, this research adds value to previous studies in several aspects. In addition to extending the scope of microeconomic studies of Al-Shaybani's *Kasb* from a normative-philosophical framework to an empirical-operational framework, this study proposes a new idea that regional human welfare is not only determined by increasing community income, but also by meeting basic needs, controlling the proliferation of excessive consumption, and redirecting resources to other productive activities to achieve sustainable welfare. This adds a new dimension to the field of Islamic economic studies, i.e., to focus more on human welfare as an outcome of the economic system, rather than the financial sector (Chapra, 2008; Kamali, 2008; UNDP, 2025).

Based on the theories and gaps in the research and the contributions listed above, this study seeks to answer two key questions. The first is how statistically related is *kifāyah*, as society's sufficiency in fulfilling basic needs, to regional welfare? The second is how statistically related is *isrāf*, as excessive consumption behavior, to regional welfare?. The answers to these questions are important because, if the results show *kifāyah* is related to regional welfare and *isrāf* is related to regional welfare, then we can formulate a new frame for developing regional welfare policies based on consumption ethics.

Literature Review

This research is the result of a study on the book *al-Kasb* by prominent scholar of the Hanafi School Muhammad ibn *al-Hasan* al-Shaybani using the edition published by ʿAbd al-Hādī Ḥarṣūnī in Damascus in 1400 H or 1980 AD. According to Bonner (2001), this edition was the result of a discovery by the Syrian scholar Suhayl Zakkar in 1967 in Istanbul in the form of a neat Persian manuscript. However, as a matter of fact, this manuscript itself is a re-recording or commentary on *al-Kasb* by Al-Sarakhsi around 483 H to 1090 AD (Bonner, 2001; Demir, 2023). Therefore, the *al-Kasb* book by *al-Shaybānī* that we have today is actually not his original writing,

because, as Melchert (2019) argues, it is difficult to distinguish Shaybani's original text from Sarakhsi's commentary.

It is one of the first studies in the Islamic world on microeconomics focused on income and work (production) and consumption (Demir, 2023; Ilmia et al., 2023; Khalfaoui, 2021; Syamsuri et al., 2022). Shaybani gives a religious value to economic activity in the sense of collaboration and mutual aid to strive for obedience to Allah as much as possible (Kahya, 2019). Therefore, from Al-Shaybani's point of view, work is a social and spiritual trust that has to be performed with honesty and responsibility (Aufa et al., 2026).

The classical book *al-Kasb*, written by *al-Shaybānī*, is another contribution to the interpretation of the relation between consumption and well-being that is applicable and contextual to contemporary studies of economics. Different from the concept of *homo economicus* in neoclassical economic theory, which is based on utility maximization, *al-Shaybānī* views consumption as a means to achieve life balance (*al-tawazun*) and social welfare. The main point of this book is to work as a natural responsibility in life and to fulfill basic needs via the adequate limit of sufficiency, or *qadr al-kifāyah* (Al-Shaybānī, 1400), and avoid wasteful behaviors, which are considered a form of corruption (*wa-fī al-isrāf ifsād*) (Al-Shaybānī, 1400). The change of the consumption pattern is one of the important preconditions for achieving inclusive and sustainable development. Hence, the thoughts of *al-Kasb* may function as a conceptual link between Islamic Economics and Human Development (Jaapar et al., 2022; OECD, 2013; UNDP, 2025).

Sufficiency (*al-kifāyah*), as explained in Kitab *al-Kasb*, means that the objective of economic activity is not to amass limitless wealth, but to fulfill basic needs adequately so that humans can function in their social role wisely. Al-Shaybānī (1400) States that this measure of sufficiency can only be attained through work. On page 18, *al-Shaybānī* further explains that Allah created the children of Adam in a state of natural dependence. Therefore, they cannot survive without the four essentials of life: food and drink, clothing and shelter.

> "Allah Almighty created the descendants of Adam with bodies that cannot survive without four things: food, drink, clothing, and shelter." (al-Shaybānī, 1400).

For *al-Shaybānī*, *kifāyah* means more than having the capacity to meet the minimum requirements to satisfy biological functions. In this regard, Ismail & Aisyah (2019), argue that *kifāyah* means having the capacity to meet the needs of the family, religion, society, and himself while playing the roles and functions as a part of God's

representation on earth and His vice. Economic well-being is defined in terms of the capacity and level of sufficiency to meet the needs with dignity, which does not require help from others. Using the above definition, sufficiency in the field of regional development is the capability of a community to meet the needs of life which exceed the minimum needs required to safeguard the welfare of the community. Generally speaking, areas with greater sufficiency are presumed to possess the potential to produce greater and better-quality human resources and to expand the opportunities of human life of their people. From this point of view, sufficiency is expected to be positively related to regional welfare and is one of the factors that determine differences in the Human Development Index among cities in Indonesia (Chapra, 2008; Sen, 1999; UNDP, 2025).

One of the important problems that stands in the way of progress in well-being is *isrāf* (wastefulness) or excess in consumption. Al-Shaybānī (1400) Describes this problem of *isrāf* (wastefulness) as having four degrees. The first degree is to eat so as to just cover hunger and to have the strength to perform worship; this is rewarded. The second degree is to eat to be full, and in this case one is accountable (lightly punished) by God. The third degree is to eat beyond fullness and to act according to one's desires; this is rewarded, but one has to be grateful and consider that one is consuming something that is lawful to eat, and think about the hungry people. The fourth degree is to eat beyond fullness to satisfy one's appetite; this is forbidden.

Wasteful consumption or spending (Orman, 2016) is inversely related to productive use of resources and contributes to increasing societal economic vulnerability. For *al-Shaybānī*, the display of extravagant wealth and social status competition (*tafākhur* and *takāthur*) leads to the antithesis of sufficiency, i.e., wastefulness. *Al-Shaybānī* considers unrestrained consumption a moral-spiritual corruption which ultimately leads to the erosion of blessings and social balance.

Just like the principle of moderation in modern economics, the operating range of well-being is located between shortage (*faqr*) and wastefulness (*isrāf*). For regional development, wastefulness reduces the community's capacity to allocate resources to the productive sectors that improve their quality of life, for example, to the education and health sectors. Therefore, a number of researchers no longer consider wastefulness to be only a moral individual issue, but rather a local community's well-being and sustainable regional development issue (Jaapar et al., 2022; UNDP, 2025). However, a more critical reading of *al-Kasb* shows that *al-Shaybānī* did not build a multidimensional welfare framework like *maṣlaḥah* in

contemporary *maqāṣid* literature. Based on his focus on issues like production ethics, work, and balancing consumption, his thoughts add intellectual substance for the development of regional welfare frameworks. Some previous studies have attempted to construct economic theories and models based on Al-Shaybani's thinking. For instance, Mohammed (2011) describes the construction of an *infāq* model based on *al-Kasb* levels; and Ariefet al. (2023) aimed to develop an alternative model to test Keynesian consumption theory.

For this study, regional welfare is understood as balancing community members' consumption behavior with self-sufficiency and sustainability. This includes controlling excessive consumerism and underproductivity, and channeling resources to productive activities that yield long-term benefits (*maḥsūdat al-kuwa al-sā'iḥah*). From this perspective, Al-Shaybani's *Kasb* theory encompasses three areas at once: Islamic Economics, Regional Development, and Human Development. This research has the potential to foster the creation of regional policy frameworks that focus on broader aspects of human well-being (Chapra, 2008; Kamali, 2008; OECD, 2013; UNDP, 2025).

Methods

This research adopts a quantitative approach and is cross-sectional, covering 514 regencies or cities in Indonesia. This research intends to analyze the relationship between the concept of *kifāyah* (as the independent variable X1) and *isrāf* (as the independent variable X2) from an Islamic Economic perspective, based on the book *al-Kasb al-Shaybānī*, concerning regional welfare. Welfare is assessed via two of the three main dimensions of the Human Development Index published by BPS-RI, 2025, i.e., Life Expectancy (LE) as a proxy of the health dimension (dependent variable Y_1) (Badan Pusat Statistik, 2025c); and Mean Years of Schooling (MYS) as a proxy of the education dimension (dependent variable Y_2) (Badan Pusat Statistik, 2025c). This research also incorporates the percentage of poor people in each region as a control variable (X3) to lessen the omitted variable bias.

The variables *kifāyah* (X1), *isrāf* (X2), and the control variable for the poverty rate (X3) are calculated from the March 2025 Susenas microdata collected by the Central Bureau of Statistics (BPS). The March Susenas survey aims to provide estimates at the regency or city level (Badan Pusat Statistik, 2025b). It covers a sample of 343,460 households and 1,173,633 individuals. *Kifāyah* (X1) is computed as the average per capita monthly expenditure (for food and non-food) from the

Susenas data, divided by 1.5 times the poverty line (GK/PL) for the regency or city (Badan Pusat Statistik, 2025e).

Just above the poverty line (GK) lies the vulnerable-to-poverty group, whose per capita expenditure ranges from 1.0 to 1.5 times the GK. As of September 2024, this group accounted for 24.42% of the population, or 68.51 million people (Badan Pusat Statistik, 2025d). Although they have crossed the poverty line, they remain highly exposed to falling back into poverty when economic shocks occur. Therefore, the threshold for determining *kifāyah* established by the BPS-RI which differentiates the vulnerable poor group from the upper-middle class (1.5-3.5 times GK) is used in this research. The proxy for *kifāyah* developed in this research is defined as:

$$Kif\bar{a}yah = \frac{Per\ Capita\ Expenditure}{1{,}5 \times\ Poverty\ Line}$$

The proxy for one form of harmful and potentially wasteful consumption that relates to the concept of *isrāf* is taken from the BPS-RI Susenas Data in March 2025. As reported in As Al-Shaybānī (1400) wasteful behavior is a form of destruction which includes smoking that is harmful to one's health. Cigarette spending is only a limited case of *isrāf*. Wasteful behavior is a threat to public health and finances. The variable of *isrāf* (X2) is defined as the average per capita monthly spending on cigarettes as determined by the BPS Susenas Survey, divided by the average of the total monthly spending (food and non-food) expenditures, thus determining the proportion of the total expenditure allocated for cigarettes. The data are then aggregated to the district or city level, using weighted averages (WTA); therefore, each of the samples represents the whole population. The results for the aggregation indicate 514 district or city samples, which are the units of analysis. The proxy for *isrāf* developed in this research is defined as:

$$Isr\bar{a}f = \frac{Cigarette\ Spending\ Per\ Capita}{Total\ Expenses}$$

In general, there are two separate estimated models as follows:

$$Y_1 = \beta_0 + \beta_1 KIF_i + \beta_2 ISR_i + \beta_3 POV_i + \varepsilon_i$$
$$Y_2 = \beta_0 + \beta_1 KIF_i + \beta_2 ISR_i + \beta_3 POV_i + \varepsilon_i$$

Where Y_1 indicates the regional well-being indicator based on Life Expectancy (LE) and Y_1 denotes MYS (Mean Years of Schooling); KIF_i is *kifāyah* (sufficiency) index; ISR_i is *isrāf* (excess or wastefulness) index, and POV_i is the poverty rate. The data were analyzed to see if there were any outliers and to check if there was any

correlation. The relationships between the variables were determined to analyze the data and prepare for the regression analysis. As a complement to the main spatial regression analysis, this study employs a series of stepwise ordinary least squares (OLS) models to assess the marginal explanatory role of *kifāyah* (KIF) and *isrāf* (ISR) beyond the poverty levels (POV). This additional analysis assesses if including the two proxies related to expenditures improves the model's ability to explain the variation in life expectancy (LE) and mean years of schooling (MYS). In the basic model, poverty levels are incorporated as predictors; KIF is included in Model 2; ISR is included in Model 3; and both KIF and ISR are included in Model 4, respectively. All models are estimated separately for each of the dependent variables and are based on the same sample of 514 regencies or cities in Indonesia.

In addition, classical assumption tests were performed, including an analysis of multicollinearity using the Variance Inflation Factor (VIF) and testing for heteroskedasticity using the White Heteroskedasticity Test. Violations of homoskedasticity were corrected by estimating the robust standard errors using Huber-White-Hinkley's heteroskedasticity-consistent standard errors (HC1). The use of robust standard errors is commonplace in econometric research due to the constant nature of residual variance being rarely, if ever, the case in practice. It is important to note that under heteroskedasticity, OLS coefficients remain unbiased; however, tests of statistical significance are misleading due to the use of conventional standard errors. The White-Huber approach is taken to compute coefficient variance in order to be resilient to the failure of classical assumptions (Farrar et al., 2025). To assess the conditions in neighboring regions that are expected to be similar, the assumption of error independence in OLS regression must be examined. This is done using Moran's I with a spatial weight matrix of the k-nearest neighbors (KNN) standardized by row, with five and eight nearest neighbors (k = 5 and k = 8), respectively. The KNN approach is used; in the case of Indonesia as an archipelago, some regions may have no neighbors (based on the matrix of administrative boundary adjacency), due to its dispersed geographical condition. The significance of Moran's I is evaluated through 999 random permutations. If spatial dependence is identified, the type of dependence is determined through the Lagrange Multiplier tests (LM-lag and LM-error) and their robust versions (Anselin et al., 1996; Yandell & Anselin, 1990). If both tests are significant, the model with the largest robust statistic is chosen. The Spatial Autoregressive Model (SAR) is used when the dependence is on the value of the endogenous variable in the neighboring areas, while the Spatial Error Model (SEM)

is applied when the dependence is on unobserved factors represented in the error term. Both models are assessed and compared against OLS using the AIC and log-likelihood.

Results and Discussion

Regression Analysis (OLS)

Life Expectancy (Y_1) on both sides of the equations has an average of 73.57 years, and a range of 63.94 to 78.75 years, indicating that differences in the quality of health and public services in Indonesia still exist. Average Years of Schooling (Y_2), on the other hand, has an average of 8.88 years, which is equivalent to junior high school, and with a wide range of 2.19 to 13.37 years, shows a larger educational inequality compared to the health inequality. Likewise, inequality in health and education is significantly correlated. In addition, all the variables show a lack of normal distribution based on the Jarque-Bera test with a probability less than 0.05.

Nevertheless, given the large sample size (n=514 districts or cities), this condition is not particularly problematic for regression analysis, because the Central Limit Theorem makes estimates consistent. The estimation of the regression analysis for Y_1 (LE) shows that the R^2 is 0.550, meaning that 55% of the variation of life expectancy has been explained by the *kifāyah*, *isrāf* and poverty variables used in this analysis, and the rest is due to other factors not included in this analysis. The F-statistic (207.77) and the level of significance (p = 0.000) show that the model in its entirety is statistically significant. The regression model is as follows:

$$\widehat{LE}_i = 77{,}2241 + 0{,}0266KIF_i - 17{,}9792ISR_i - 0{,}2460POV_i + \varepsilon_i$$

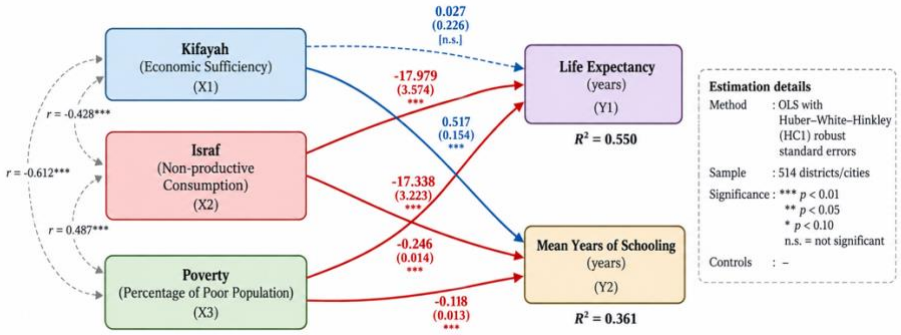
Constant term, 77.2241, shows that in a situation where all independent variables are equal to zero, the predicted life expectancy would be about 77.22 years. The effect of *kifāyah* is shown by the coefficient, 0.0266, but since the level of significance is 0.890, the effect is not statistically significant. The effect of *isrāf* is shown by the negative coefficient, -17.9792, and is statistically significant. Since the variable is in proportion (0 to 1), a more sensible interpretation is that a 1 percentage point increase in cigarette spending (0.01) would imply a 17.9792 x 0.01 = 0.1798 (about 0.18 years, which is roughly 2 months) decrease in life expectancy, considering other variables are constant. The effect of poverty is shown by the negative coefficient of -0.2460. This shows that a 1 percentage point increase in the poverty level would result in a 0.246 year decrease in life expectancy, if other

variables are constant. In the regression test on the second model (Y_2, i.e., MYS), it was found that *kifāyah*, *isrāf* and poverty simultaneously have significant ability to explain variations of Mean Years of Schooling (MYS) across districts or cities in Indonesia. The F-statistic is 95.95 with a probability of 0.000. So, the model as a whole is significant at a very high confidence level. The R^2 value of 0.361 implies that about 36.1 % of the variation in average years of schooling is explained by the 3 variables in the model. The regression equation can be formulated as follows:

$$\widehat{MYS}_i = 10{,}2475 + 0{,}5173KIF_i - 17{,}3383ISR_i - 0{,}1176POV_i + \varepsilon_i$$

The constant value of 10.2475 implies that if we assume the values of *kifāyah*, *isrāf* and poverty to be zero, then expected average length of schooling would be about 10.25 years. But in practice, the case may not occur and therefore, the constant is necessary to develop a regression equation. In general, the test results discussed above can be summarized as figure 1:

Figure 1. Estimated Path Model of Kifāyah, Isrāf, and Poverty on Human Development Outcomes (OLS with Huber–White–Hinkley Robust Standard Errors)



Note: Numbers on the arrows are regression coefficients. Robust standard errors are shown in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.10, n.s. = not significant.

From this flowchart, it can be observed that *kifāyah* is not significant for health, but for education, *isrāf* and poverty have negative impacts on both domains of well-being. This proves the theory of *al-Shaybānī* that the state of well-being is not only determined by income sufficiency, but also by how the resources are consumed. The

wise consumption of resources will definitely enhance the quality of human resources, especially in the education sector.

Testing *kifāyah*

There is heterogeneity in the economic sufficiency conditions across regencies or cities in Indonesia. The *kifāyah* variable (KIF), proxied by the per capita expenditure ratio at 1.5 times the poverty line, has a mean of 1.80, with a minimum of 0.78, a maximum of 3.99 and a standard deviation of 0.40. Descriptively, the average ratio is above the threshold set analytically, but there are still areas below it. The distribution of the KIF variable is right-skewed (skewness = 0.99) with kurtosis of 5.94, which implies that there are outlying areas with ratios that are significantly above the average. The percentage of the *kifāyah* variable in sufficiency spending, within the framework of sufficiency of per capita spending, is the operational proxy. A sufficient measure of the concept of *kifāyah* in the thought of *al-Shaybānī* is still required.

In correlation analysis, KIF is positively correlated with life expectancy (LE; r = 0.312) and mean years of schooling (MYS; r = 0.368). Following adjustment for ISR and the percentage of the poor, the relationship between KIF and LE was not significant, whereas the relationship between KIF and MYS was positive and significant (coefficient = 0.517; p = 0.0012). Therefore, the study's findings don't permit the conclusion that spending adequacy has a consistent independent significant effect on both dimensions of human development. Differences between correlation and regression results imply that the positive, although not significantly strong, association between KIF and LE may be attributed to other variables included in the model, such as poverty and the pattern of cigarette expenditures.

On the other hand, the more consistent association between KIF and MYS may be attributed to the fact that household economic resources are directly related to the ability to sustain educational participation and cover the costs of schooling and transportation as well as learning resources. The more consistent association of KIF with MYS can be explained by the possibility that household economic resources are directly related to the ability to sustain educational participation, cover school and transportation costs, provide learning materials, and reduce the pressure to prioritize short-term economic needs over school continuity. Evidence from Indonesia Lim & Lee (2022) shows that household socio-economic conditions and aspiration dynamics are related to human capital investment and children's

educational attainment; the impact of growing aspiration gaps also tends to harm the education of children from low-income families more.

Different factors, ranging from environmental and sanitation conditions to the availability and accessibility of medical services, health insurance, and healthcare workers, affect life expectancy. A study conducted by Paramita et al. (2020) illustrates the relationship between life expectancy and the availability of health workers and healthcare services, education, per capita spending, the environment, and other related factors in the provinces of Indonesia. Similarly, Kristanto et al. (2019) mentioned that health workers and health insurance positively contribute to life expectancy, while poverty negatively affects life expectancy; recent district-level evidence also links government health spending with life expectancy (Sari et al., 2025). This body of evidence indicates that a country's gross domestic product (KIF) and health are interrelated, and that this relationship might be even more strongly supported by the addition of other related factors. It is, however unfortunate that in the present study, the author was unable to include related variables that might have improved the understanding of the phenomenon.

Testing *isrāf*

The variable for *isrāf* (ISR) is approximated using the proportion of cigarette expenditures to total per capita spending. The average proportion is 6.09%, with a minimum of 2% and a maximum of 11%. The skewness value for the variable is 0.04, indicating a symmetrical distribution. While this proportion of spending does not completely capture the notion of *isrāf* in the field of Islamic economy and finance, the variable is used as a limited proxy to represent one form of consumption that allocates resources for other needs. It is important to note that categorizing all cigarette spending as *isrāf* is wrong. Cigarette expenditures should be evaluated in the context of consumption priorities, as well as the health implications and the adequacy of the needs of the family.

Based on the correlation results, there is a negative association between ISR and life expectancy (LE) (r = -0.074) and a negative but stronger association between ISR and mean years of schooling (MYS; r = -0.194). Although the correlation between ISR and these variables is relatively weak, the negative association indicates that the more a household allocates its resources to excessive consumption (as supported by *al-Kasb*), the lower the human development achievements in health and education. In other OLS regressions (that include KIF and the percentage of poor population), ISR is negative and significant for LE and MYS. In these regressions, a 1% increase in

the proportion of cigarette expenditures is associated with a 0.179-year and 0.173-year decrease in life expectancy and mean years of schooling, respectively, all other things remaining the same. Swarnata et al. (2024) Using data from Susenas for the years 2017 to 2019, indicated that tobacco expenditure in Indonesia negatively impacts the budget share for food and non-food items, including the education and health sectors. Swarnata et al. (2024) showed that expenditure on tobacco is unproductive; therefore, the positive association with poverty indicates that tobacco expenditure increases poverty. As such, the negative relationship between ISR and LE and MYS may, therefore, reflect not only the choices on how the household consumes, but also the resource and socio-economic constraints, and lag.

The association between cigarette smoking and years of life lost, and differences in population life expectancy, further highlights the negative impact of smoking and the importance of smoking reduction (Bryazka et al., 2024). Using an Islamic economic perspective, smoking can be interpreted as *isrāf* in the sense that it represents unnecessary and wasteful consumption. The results of this study also indicate that there is a need to explore the association between cigarette expenditure and human development in a more detailed manner, while using ISR as a proxy for wasteful consumption.

Testing Poverty

The control variable for poverty (POV) averages 10.58%, ranging from 1.90% to 42.56% with a standard deviation of 6.93 percentage points. Its distribution is right-skewed (skewness = 1.77) with a kurtosis of 6.38. While the majority of districts or cities have relatively lower poverty rates, there are some areas that have much higher poverty levels. This situation justifies taking into account poverty when analyzing the relationship between adequacy (*kifāyah*), the proportion of cigarette expenditure as a limited proxy for *isrāf*, and human development.

Poverty has a negative correlation with life expectancy (LE) and average years of schooling (MYS). A negative correlation implies that as poverty increases, life expectancy and average years of schooling decrease. Generally, the relationship among the independent variables is relatively low. *Kifāyah* is negatively correlated with *isrāf* (-0.240), *kifāyah* is negatively correlated with poverty (-0.362), and *isrāf* is positively correlated with poverty (-0.119). All the above correlation values are far below the threshold for multicollinearity ($|r| > 0.80$). These findings are in line with the studies in Indonesia (Arsani et al., 2020; Kurniasari & Oktavilia, 2023).

These studies have proven the relationships between poverty and education and health, as well as access to basic needs. Using robust HC1 standard errors, the poverty coefficient is -0.246 for LE and -0.1176 for MYS. Both are statistically significant. Holding other variables constant, a 1 percentage point increase in the poverty rate is expected to decrease LE by 0.246 years and MYS by 0.1176 years. The consistent direction of the relationship suggests poverty is not just a background variable, but an important contextual variable for analyzing the relationship between the indicators of expenditures and human development. The literature on poverty in Indonesia also states that education and health outcomes are linked with access to clean water and electricity as well as the economic condition of the society (Imantria, 2024; Rama et al., 2025). Although this study is based on cross-sectional data at the district or city level, the outcomes cannot describe the causal relationship with other variables.

The main contribution of indicators inspired by Al-Shaybani's ideas is that the relationship between *kifāyah* and *isrāf* and human development should be studied considering poverty, rather than in isolation. KIF is not significantly related to LE, but it is significantly related to MYS; on the other hand, ISR is negatively related to both LE and MYS. This pattern indicates that adequacy and consumption allocation indicators may represent variations in human development; however, they do not remove the significance of poverty conditions.

Incremental Regression Analysis (Hierarchical OLS)

The results of the nested ordinary least squares (OLS) model analysis, as additional evidence to assess the extra explanatory role of KIF and ISR in relation to poverty levels (POV), indicate different patterns for the two human development indicators. For LE, the basic model accounts for 52.41% of the observed variation. Adding KIF raises the R^2 value to 0.5269, but the coefficient of KIF is not close to being significant at the 5% level in the model with KIF, poverty and in the full model. Adding ISR to the basic model increases R^2 from 0.5241 to 0.5500, about 2.59 percentage points. In the full model, the coefficient of ISR was again negative and statistically significant, while the coefficient of KIF was not. For MYS, again both KIF and ISR provide additional information beyond poverty. Adding KIF raised R^2 to 0.3164, while adding ISR raised R^2 to 0.3476, While adding ISR increases the R^2 to 0.3476. The complete specification yields an R^2 of 0.3608. In this model, both the KIF and ISR coefficients with respect to MYS are negatively signed and statistically significant. The results indicate that the incremental contribution of the two

spending proxies differs depending on the indicator being analyzed. Generally, KIF provides a more consistent contribution in explaining educational attainment, and ISR adds information to both the indicators analyzed.

Table 1. Nested OLS Regression Results for Life Expectancy and Mean Years of Schooling

	Life Expectancy (LE)				Mean Years of Schooling (MYS)			
Variable	**M1**	**M2**	**M3**	**M4**	**M1**	**M2**	**M3**	**M4**
Constant	76.114***	75.451***	77.287***	77.224***	10.171***	8.538***	11.481***	10.247***
Poverty	-0.240***	-0.233***	-0.246***	-0.246***	-0.122***	-0.105***	-0.129***	-0.117***
Kifāyah	-	0.3276	-	0.0266	-	0.8075***	-	0.5173**
Isrāf	-	-	-18.128***	-17.979***	-	-	-20.230***	-17.338***
Observations (N)	514	514	514	514	514	514	514	514
R^2	0.5241	0.5269	0.5500	0.5500	0.2808	0.3164	0.3476	0.3608
Adjusted R^2	0.5231	0.5250	0.5482	0.5473	0.2794	0.3137	0.3450	0.3570
AIC	3.7663	3.7642	3.7142	3.7181	3.4521	3.4053	3.3586	3.3420
F-statistic	563.786***	284.547***	312.240***	207.766***	199.947***	118.231***	136.118***	95.9517***
ΔR^2 from M1	-	0.0028	0.0259	0.0259	-	0.0355	0.0667	0.0800

Note: M1 = baseline model (poverty only); M2 = M1 + *kifāyah*; M3 = M1 + *isrāf*; M4 = all variables. ΔR^2 is measured relative to M1. $^{***}p < 0.01$, $^{**}p < 0.05$.

These results as shown at table 1 need to be interpreted carefully. An improvement in R^2 in the model indicates an improvement in the model's ability to explain the data, and is not to be construed to show a causal relationship. This hierarchical OLS model alone does not handle spatial dependence. KIF is an analytical proxy constructed relative to the poverty line benchmark, whereas ISR only captures the proportion of spending on cigarettes and, thus, cannot be treated as representing the entire Islamic ethical concept of *isrāf*. Since observations represent aggregate characteristics of regencies or cities, the estimated relationships cannot be generalized to households and individuals at that level. Therefore, this provides additional analysis to justify and interpret the role of KIF and ISR beyond poverty, and SEM results will remain to interpret the remaining relationships between the Regions.

Multicollinearity and White Heteroskedasticity Analysis

The results of the multicollinearity test show that the regression model in this study did not suffer from serious cases of multicollinearity. This is evident from the Centered VIF of the independent variables, which are all well below the critical limit of 10, which is prevalent in the literature, and are all below 2. The *kifāyah* variable (X1) has a Centered VIF of 1.270, the *isrāf* variable (X2) has a Centered VIF of 1.119, and the variable of poverty (X3) has a Centered VIF of 1.214. As such, low Centered VIFs indicate that the independent variables are not highly correlated, and as such, each variable is able to give distinct contribution to the model.

The White test for heteroskedasticity showed the regression model had a problem of heteroskedasticity, as shown by the Prob. F-statistic of 0.0000, Prob. Obs R-squared of 0.0000, and Prob. Scaled Explained SS of 0.0000, all of which are below the 5% significance level. Hence, the null hypothesis (H_0) of constant residual variance (i.e., homoskedasticity) is rejected. This implies that residual variance is not constant across observations, indicating high heterogeneity among the 514 regencies or cities, which are geographically dispersed and have different background conditions.

The estimation results show that after correcting for heteroskedasticity using the Huber-White-Hinkley (HC1) approach, *isrāf* and poverty have a negative and significant effect on life expectancy. In addition, the *kifāyah* variable does not show a significant effect. These results indicate that the relationship found earlier is not due to the assumption of homoskedasticity being violated. Instead, the results indicate that there is a relatively stable pattern that poverty and *isrāf* reflect in the consumption structure of the population across regencies and cities in Indonesia that most often influences life expectancy. The combined results for LE and MYS are presented in Table 2.

Table 2. Heteroskedasticity Test Results (HC1)

Variable	Life Expectancy (LE)	Average Years of Schooling (MYS)
Kifāyah	Not statistically significant	Significantly positive
Isrāf	Significantly negative	Significantly negative
Poverty	Significantly negative	Significantly negative

This table actually provides an interesting narrative in that *kifāyah* is not connected to the health dimension, but is connected to the education dimension. On

the other hand, *isrāf* and poverty are always negatively correlated with the two dimensions of human development. Thus, from Al-Shaybani's viewpoint, this means that for households, economic sufficiency (*kifāyah*) is first translated into educational investment (in the formation of human capital) and public health quality is more structured by other factors, like for example, poverty and unproductive consumption patterns.

Estimations using Huber–White–Hinkley (HC1) based heteroskedasticity-consistent standard errors show that LE has a strong, clear power (R^2= 0.550), showing that about 55% of the variation in life expectancy across districts or cities in Indonesia is explained by *kifāyah*, *isrāf*, and poverty. The Wald F-statistic value of 172.949, with a probability of 0.000, shows that the corrected model is still significant. Regarding the MYS model, estimations using Huber-White-Hinkley (HC1) based heteroskedasticity-consistent standard errors show that an R^2 of 0.361 indicates about 36.1% of the variation in average years of schooling across districts in Indonesia is explained by *kifāyah*, *isrāf,* and poverty. The Wald F-statistic value of 75.62, with a probability of 0.000, also shows that the corrected MYS model is still significant. Given that the findings of the model are not affected by the violations of the homoskedasticity assumption, the estimation results are quite reliable for drawing statistical inferences. Consequently, the use of robust estimation fortifies the validity of empirical findings from the regression model.

On the other hand, in the second model, MYS, the results from estimations using Huber-White-Hinkley (HC1) heteroskedasticity-consistent standard errors show that the main results of the study are unchanged after correcting for heteroskedasticity problems. An R^2 of 0.361 indicates that about 36.1 percent of the variation in average years of schooling across cities in Indonesia is explained by the variables of *kifāyah*, *isrāf*, and poverty. Additionally, the Wald F-statistic of 75.62 with a probability of 0.000 shows that the model is significant after correcting for heteroskedasticity problems using robust standard errors. These results indicate that the violations of the homoskedasticity assumption of the model do not affect the relations identified in the model; therefore, the estimation results are reliable and can be used for statistical inference. Thus, the use of robust estimations strengthens and improves the results of the empirical analysis obtained from the regression model.

The two estimation results above further confirm that *kifāyah* is only significant in the education dimension, whereas *isrāf* and poverty have consistent negative effects on both education and health. This supports the argument that the first

manifestation of economic sufficiency is investment in education, and the quality of public health is, to a great extent, conditioned by the prevailing poverty and unproductive consumption patterns. The study, therefore, adds to the body of knowledge that the human development of a country is not determined by the volume of economic resources that a country has, but by the quality of how and in what areas the resources are allocated and utilized. Table 3 and Table 4 compares the OLS estimates obtained with conventional and robust (HC1) standard errors for the life expectancy model.

Table 3. Model 1: Life Expectancy (LE)

Variable	OLS Coefficient	OLS p-value	Robust Coefficient	Robust p-value
Constant	77.224	0.0000	77.224	0.0000
Kifāyah (X1)	0.0266	0.8900	0.0266	0.9062
Isrāf (X2)	-17.979	0.0000	-17.979	0.0000
Poverty (X3)	-0.2460	0.0000	-0.2460	0.0000
R-squared	0.550	—	0.550	—
Adjusted R-squared	0.547	—	0.547	—
F-statistic	207.77	0.0000	Wald F = 172.95	0.0000

Table 4. Model 2: Mean Years of Schooling (MYS)

Variable	OLS Coefficient	OLS p-value	Robust Coefficient	Robust p-value
Constant	10.248	0.0000	10.248	0.0000
Kifāyah (X1)	0.5173	0.0012	0.5173	0.0008
Isrāf (X2)	-17.338	0.0000	-17.338	0.0000
Poverty (X3)	-0.1176	0.0000	-0.1176	0.0000
R-squared	0.361	—	0.361	—
Adjusted R-squared	0.357	—	0.357	—
F-statistic	95.95	0.0000	Wald F = 75.62	0.0000

The application of Huber-White-Hinkley (HC1) Robust Standard Errors shows that regression coefficients remain the same using OLS, while correcting standard errors and statistical significance tests. Results from both the life expectancy and average years of schooling models showed that the direction and level of significance

of the independent variables remained the same even after correcting for heteroskedasticity. In the life expectancy model, '*isrāf*' and 'poverty' remained negatively and significantly influential, while '*kifāyah*' remained positively and significantly influential in the average years of schooling model. The other constant results from the models indicate that the findings are fairly robust, and are not due to violations of the homoskedasticity assumption, as shown by the White test.

Spatial Dependence Analysis and Regression Model Selection

The standard errors for the OLS model were clustered at the provincial level (38 clusters) to account for dependency among regions in the same province to re-estimate the OLS model. Increased standard errors for all coefficients were observed (Table 5), but the findings and conclusions did not change. '*Kifāyah*' is not significant for LE (p = 0.937) and significantly affects MYS (p = 0.0146), while '*isrāf*' and 'poverty' negatively affect both (p ≤ 0.0106). The effect of '*kifāyah*' and '*isrāf*' on MYS, however, weakened to 5% from 1%. This correction accounts for dependencies within provinces only.

Table 5. Comparison of OLS Standard Errors: HC1 vs. Province-Clustered Standard Errors

Variable	Coef.	HC1 robust		Province-clustered		SE ratio
		SE	*p*	SE	*p*	(Clust./HC1)
Panel A. Life Expectancy (LE)						
Kifāyah	0.027	0.226	0.906	0.334	0.937	1.48
Isrāf	−17.979	3.574	<0.001	6.048	0.005	1.69
Poverty	−0.246	0.014	<0.001	0.025	<0.001	1.78
Panel B. Mean Years of Schooling (MYS)						
Kifāyah	0.517	0.154	<0.001	0.202	0.015	1.31
Isrāf	−17.338	3.223	<0.001	6.443	0.011	2.00
Poverty	−0.118	0.013	<0.001	0.027	<0.001	2.14

Note: N = 514 regencies/cities. Clustered standard errors are clustered at the province level. SE ratio = clustered SE divided by HC1 SE.

The next step was to perform the Moran's I test to demonstrate patterns (if any) that spill beyond provincial boundaries, and to analyze with a spatial model. Results

showed that the OLS residuals were positively and significantly spatially autocorrelated for all specifications (Table 6; Moran's LE: 0.550 and 0.520; MYS: 0.396 and 0.368) for each KNN matrix (k=5) and (k=8) (($p \leq 0.01$)). This implies that the OLS model's prediction errors are still geographically clustered, and therefore the assumption of independence of residuals needs further assessment. It is worthwhile to consider a model that incorporates spatial dependence.

Table 6. Spatial Dependence Diagnostics and Model Selection

Dependent variable	Moran's I (OLS)	Standard LM		Robust LM		Moran's I (SEM)	Preferred model
		Lag	Error	Lag	Error		
Panel A. Spatial weights: k-nearest neighbours (k = 5)							
LE	0.550***	357.368***	439.829***	29.230***	111.691***	−0.033	SEM
MYS	0.396***	85.511***	227.689***	31.596***	173.773***	−0.009	SEM
Panel B. Spatial weights: k-nearest neighbours (k = 8)							
LE	0.520***	407.978***	627.021***	28.258***	247.301***	−0.011	SEM
MYS	0.368***	92.141***	314.726***	38.599***	261.184***	0.003	SEM

Note: N = 514 regencies/cities. LE = life expectancy; MYS = mean years of schooling; LM = Lagrange Multiplier; SEM = Spatial Error Model. Moran's *I* (OLS) and (SEM) are computed on OLS and SEM residuals, respectively; Moran's *I* on SEM residuals is not significant in any specification. ***$p < 0.01$.

Further tests for spatial dependence relied on the robust versions of the Lagrange Multiplier tests (LM-lag and LM-error). Standard LM-lag and LM-error tests were all significant. Thus, the results from the two tests alone could not determine the type of dependence. Thus, model selection was based on the Robust LM-lag and Robust LM-error tests. In all four cases (various dependent variables and weight matrices), the Robust LM-error statistic was greater than the Robust LM-lag statistic. In the LE model with (k=5), the Robust LM-error statistic was 111.691, while the Robust LM-lag statistic was 29.230. In the MLS model with k=8, similar results were observed, thus indicating that the Spatial Error Model (SEM) should be considered the main model and the Spatial Autoregressive Model (SAR) should be considered the robustness model. The SEM was not based on the results of a single test, but rather on the comparison of model fits (Table 7). After estimating the SEM, Moran's I on the spatially filtered errors approached zero and was not statistically significant, indicating that the spatial dependence in the errors was resolved.

Table 7. Comparison of OLS, SAR, and SEM Estimates Using a KNN Spatial Weights Matrix (k = 5)

Variable	OLS	SAR	SEM
Panel A. Dependent variable: Life Expectancy (LE)			
Constant	77.224***	33.094***	76.211***
	(0.522)	(2.456)	(0.438)
Kifāyah	0.027	0.022	0.066
	(0.192)	(0.143)	(0.147)
Isrāf	−17.979***	−16.153***	−11.938***
	(3.514)	(2.611)	(3.037)
Poverty	−0.246***	−0.127***	−0.191***
	(0.011)	(0.011)	(0.013)
Spatial lag parameter (ρ)	—	0.581***	—
		(0.032)	
Spatial error parameter (λ)	—	—	0.737***
			(0.030)
AIC	1,911.099	1,645.149	1,612.162
Log-likelihood	−951.549	−817.574	−802.081
Panel B. Dependent variable: Mean Years of Schooling (MYS)			
Constant	10.248***	6.925***	11.506***
	(0.433)	(0.618)	(0.405)
Kifāyah	0.517***	0.403***	0.441***
	(0.159)	(0.148)	(0.141)
Isrāf	−17.338***	−19.277***	−28.225***
	(2.912)	(2.734)	(2.872)
Poverty	−0.118***	−0.086***	−0.153***
	(0.009)	(0.010)	(0.012)
Spatial lag parameter (ρ)	—	0.372***	—
		(0.047)	
Spatial error parameter (λ)	—	—	0.655***
			(0.037)
AIC	1,717.805	1,658.915	1,549.683
Log-likelihood	−854.902	−824.457	−770.842

Note: N = 514 regencies/cities. Standard errors in parentheses. SAR = spatial autoregressive model; SEM = spatial error model; AIC = Akaike information criterion. ***$p < 0.01$.

A comparison of OLS, SAR, and SEM estimates using the KNN weight matrix (k=5) showed that SEM had the lowest Akaike Information Criterion (AIC) value and the highest log-likelihood for both dependent variables. In the LE model, the SEM AIC was 1,612,162 and was lower than the SAR (1,645,149) and OLS (1,911,099) values. In the MYS model, the SEM AIC was 1,549,683 and was lower than the SAR

(1,658,915) and OLS (1,717,805) values. The spatial dependence parameter on the fault component (lambda) was also significant and was 0.737 for LE and 0.655 for MYS. In SEM, *kifāyah* was significantly positively related to MYS (0.441; $p < 0.01$) and not significantly related to LE (0.066; $p = 0.656$). *Isrāf* was significantly negatively related to LE (-11.938) and MYS (-28.225), as well as to poverty (-0.191 and -0.153; overall $p < 0.01$). The findings related to the OLS were consistent, but the coefficients varied in magnitude. Therefore, these findings were interpreted as associations, rather than as cause-and-effect relationships. The interpretation of the findings focused on direction and significance, rather than on the absolute value of the coefficients.

Tests performed on the KNN matrix ($k = 8$), however, demonstrated unidirectional results. For both dependent variables, SEM produced the best AIC when compared to OLS and SAR, and the parameter (lambda) was found to be significant, i.e., 0.791 for LE and 0.715 for MYS. It was also observed that Moran's I on residual SEM was not statistically significant for the four different combinations of the dependent variables and weight matrices, and the (p)-value permutation was in the range of 0.114-0.388. This implies that after the estimation of SEM using the weight matrix, the global spatial autocorrelation of the OLS residuals was not statistically detectable. Overall, the diagnostic results, AIC and log-likelihood comparisons, and the robustness tests suggest that the SEM is the primary model, and SAR is the comparative model. That said, this conclusion is valid only if we restrict ourselves to specifying the regional midpoint-based KNN matrix; it does not include alternative tests based on Administrative Boundary intersections (Queen Contiguity) and eliminate the inference limits from aggregated district-level data and the presence of inverse cause-and-effect relationships.

Conclusion

This study operationalizes two concepts drawn from al-Shaybānī's *al-Kasb*, *kifāyah* (economic sufficiency) and *isrāf* (wasteful consumption), and examines their association with regional human development across 514 regencies and cities in Indonesia. Using the ratio of per capita expenditure to 1.5 times the poverty line as an indicator of *kifāyah* and cigarette expenditure as a limited proxy for *isrāf*, the analysis reveals distinct relationships with education and health outcomes. The OLS and spatial error model (SEM) estimates show that *kifāyah* is positively and significantly associated with mean years of schooling but not with life expectancy. In contrast, the *isrāf* proxy and poverty are negatively and significantly associated with

both indicators. These findings indicate that economic sufficiency is more consistently associated with educational attainment than with life expectancy, while cigarette expenditure and poverty are associated with poorer outcomes in both dimensions. The results are consistent with the relevance of economic sufficiency and moderation in consumption, as discussed in *al-Kasb*, for understanding regional differences in human development. However, these relationships should be interpreted as associations rather than causal effects, given the cross-sectional data and the limited proxies used to represent the broader concepts of *kifāyah* and *isrāf*.

The study links al-Shaybānī's concepts of economic sufficiency (*kifāyah*) and wastefulness (*isrāf*) to contemporary analysis of regional human development. The results are consistent with the relevance of these concepts for explaining variation in educational attainment, but the pattern is not uniform across dimensions. For life expectancy, expenditure sufficiency shows no significant association, while poverty and cigarette expenditure remain negatively associated. An Islamic economic reading of regional human development may therefore need to consider not only the level of income and consumption but also the allocation of household spending and the reduction of poverty.

Several implications follow, with the caveat that the results are associations. First, the absence of a significant association between expenditure sufficiency and life expectancy, once poverty and cigarette expenditure are taken into account, suggests that health gains may depend more on addressing poverty and tobacco use than on expenditure levels alone, although this may partly reflect the overlap between sufficiency and poverty. Second, poverty reduction should remain a regional priority, as poverty is negatively associated with both health and education outcomes. Third, the negative association between cigarette expenditure and both outcomes is consistent with attention to tobacco control. From an Islamic economic perspective, this aligns with directing household resources toward more beneficial uses.

This study has several limitations. First, the proxies for *kifāyah* and *isrāf* are modern operationalizations and do not capture the full complexity of the concepts in al-Shaybānī's work. Second, *isrāf* is measured only by cigarette expenditure, which covers a limited part of the concept as discussed in the Islamic economics literature and may also reflect socioeconomic constraints rather than discretionary waste. Third, the cross-sectional design means the relationships are associational and cannot be interpreted as causal. Fourth, the models include only the poverty rate as a control and omit other factors likely to affect health and education outcomes,

such as healthcare quality, government spending on education, urbanization, income inequality, and regional institutional factors. Fifth, the use of regency- and city-level aggregates raises the risk of ecological inference, so the associations cannot be read as household- or individual-level relationships. Sixth, reverse causality is possible, given the interrelationship among expenditure, poverty, and human development outcomes. Seventh, *kifāyah* and poverty may overlap conceptually, since both relate to the sufficiency of economic resources. Eighth, the *kifāyah* measure may be sensitive to the choice of poverty-line threshold, and the SEM results depend on the k-nearest-neighbor spatial weights used (k = 5 and k = 8); alternative thresholds and contiguity-based weights were not tested. Ninth, human development is measured through only two of its three dimensions, health and education.

Future studies may address these limitations by using panel data, broadening the indicators of *isrāf*, testing alternative poverty-line thresholds and spatial weights, and applying stronger causal identification strategies.

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