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WHAT FACTORS INFLUENCE THE WELFARE OF ZAKAT BENEFICIARIES?

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ABSTRACT

This study investigates the influence of demographic, social, and economic variables on the welfare of zakat beneficiaries in West Java, Indonesia. Using a sample of 1,300 zakat beneficiaries, the paper applies the Chi-square Automatic Interaction Detector (CHAID) method. Our findings suggest the crucial role of monitoring by amil institutions in the respective areas on the improvement of material and spiritual conditions of zakat beneficiaries. The study suggests that amil plays a major part in the success of zakat distribution programs and the programs should be further enhanced for the betterment of zakat beneficiaries. This study also shows that apart from zakat distribution programs, there are also some demographic, social, and economic variables that affect the income and spiritual conditions of zakat beneficiaries.

Keywords: Zakat, Amil, Zakat monitoring programs, CHAID, Zakat beneficiaries.
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I. INTRODUCTION

Zakat, one of the five pillars of Islam, holds significant potential as an instrument for reducing poverty, promoting economic justice, and reducing income inequality (Choiriyah et al., 2020; Mohd. Ali et al., 2015; Zaenal et al., 2018; and Ayuniyyah et al., 2022). As a religious obligation, Muslims is required to donate a specified portion of their wealth to support the less fortunate. In countries with large Muslim populations, zakat has the potential to make a substantial impact on national welfare whereby Zakat contributes to economic growth by increasing the income of the poor and supporting productive economic activities (Ridwan et al., 2019; Abdussalam et al., 2025).

Indonesia, with the largest Muslim population in the world, has consistently demonstrated a high zakat collection potential (see Table 1). Firdaus et al. (2012) find that the potential of national zakat collection equals 3.40 percent of the country's GDP. The latest study on potential zakat collection in Indonesia is by Asfarina et al. (2019). By using the contemporary *fiqh* approach under an optimistic scenario, zakat potential equals 1.75 percent of the GDP while under a realistic scenario, it is 0.60 percent of the GDP.

Table 1.
Zakat Collection Potential in Indonesia

	Types of Zakat	Potential Zakat (IDR Trillion)	% to GDP (2016)
Zakat Potential According to Contemporary Fiqh under Optimistic Scenario	Household Zakat	120.09	1.75
	Corporate Zakat	26.88	
	Zakat on Savings	69.57	
	Total	216.54	
Zakat Potential According to Contemporary Fiqh under Realistic Scenario	Household Zakat	34.73	0.60
	Corporate Zakat	26.88	
	Zakat on Savings	13.26	
	Total	74.87	

Sources: Asfarina *et al.* (2019)

Despite these estimates, actual zakat collection has yet to fully meet its potential. The realization of zakat collection in 2023 equals IDR 32.31 trillion, representing a 43.74 percent increase from the previous year. Although the number has not reached its full potential, the trend of the national zakat collection has been growing by 36.48 percent on average during the last decade. The number of individual *muzaki* (zakat payers) was 21.4 million in 2022, rising to 34.8 million in 2023. Meanwhile, for institutional *muzaki*, the number fell from 257,117 in 2022 to 182,306 in 2023 (Badan Amil Zakat Nasional, 2024). The zakat collection amount represents only approximately 0.15 percent of Indonesia's GDP in 2023, which is far below the potential as stated in Table 1.

Zakat distribution programs are a crucial component of effective zakat management, alongside collection efforts. In Surah At-Taubah of the Qur'an, the verse about zakat distribution is mentioned before the verse concerning the

collection. Hafidhuddin et al. (2015) argue that this arrangement in the Quran highlights an important principle: the success of zakat distribution influences the success of its collection. Well-structured zakat distribution programs enhance the credibility of zakat institutions, which in turn improves the effectiveness of zakat collection efforts. In other words, this verse reflects the priority of effective distribution in ensuring successful collection and public trust. One of the main objectives of zakat distribution programs is to improve the conditions of its beneficiaries (Yamaludin et al., 2024; Allah Pithchay et al., 2024; Herianingrum et al., 2024; Ayuniyyah et al., 2022; Rahmat & Nurzaman, 2019; Ayuniyyah et al., 2018; Beik & Ayuniyyah, 2015; and Hafidhuddin et al., 2015).

While numerous studies have explored the role of zakat in poverty alleviation, there are limited studies that employ advanced statistical methods to assess the influence of demographic, social, and economic variables on the change of income and spiritual conditions of zakat beneficiaries. The dual dimension of welfare, i.e., spiritual and economic aspects, is particularly pertinent in Islamic economics but often receives inadequate attention. Additionally, many studies focus primarily on local context, with minimal incorporation of comparative international perspectives. This lack of global reference limits the generalizability of findings. Furthermore, studies employing the Chi-square Automatic Interaction Detector (CHAID) method, which can provide a nuanced understanding of hierarchical factors influencing welfare, are scarce in the field of zakat research.

Therefore, this study attempts to investigate factors that influence income and spiritual condition of zakat beneficiaries by taking the case of 1,300 zakat beneficiaries in West Java, Indonesia, as respondents. More specifically, using the CHAID method, the study seeks to:

1. Evaluate the role of monitoring programs in improving the income and spiritual condition of zakat recipients.
2. Examine the effect of demographic factors such as education, age, and household size on welfare outcomes.
3. Provide policy recommendations to enhance the effectiveness of zakat distribution programs in both urban and rural settings.

By addressing these objectives, this study contributes to the literature on Islamic economics and welfare management, offering both theoretical insights and practical implications for zakat institutions.

II. LITERATURE REVIEW

2.1. Theoretical Foundation

Islamic economics views welfare as a combination of material and spiritual well-being. Zakat is a central mechanism for addressing both dimensions. It aims at redistributing wealth to support the underprivileged, thereby reducing poverty and economic inequality (Johari et al., 2013; Ahmad et al., 2017; and Mongkito et al., 2025). Effective zakat distribution can significantly enhance the financial status of recipients, helping them to become self-sufficient and reducing their dependency on zakat aid (Majid et al., 2024).

The Center of Islamic Business and Economic Studies (CIBEST) model, developed by Beik & Arsyianti (2015), introduces a novel framework for assessing

poverty from an Islamic economic perspective. Unlike conventional poverty measurement models, which primarily focus on material deprivation, the CIBEST model integrates both material and spiritual dimensions of well-being, aligning with Islamic values and the broader concept of maqasid al-shariah or objectives of Islamic law. This dual-dimensional approach provides a holistic and comprehensive tool for evaluating poverty and socioeconomic welfare within Muslim societies. See also Kasri & Ahmed (2015) for an empirical framework using Maqasid al-Shari'ah to evaluate welfare impact of zakat.

The CIBEST model categorizes individuals and households into four quadrants based on two fundamental aspects. First, material well-being, which considers income and economic resources, following established poverty thresholds. Second, spiritual well-being, which is measured through adherence to religious values, moral conduct, and active engagement in spiritual activities, including prayer, charity (zakat), and ethical behavior. These two dimensions define the following four categories of individuals or households:

- Quadrant I: Welfare Condition (Well-being in both material and spiritual aspects) – Individuals meeting both economic and religious criteria.
- Quadrant II: Material Poverty (Deprived in material well-being but strong in spirituality) – Households experiencing financial constraints but maintaining religious observance.
- Quadrant III: Spiritual Poverty (Economically stable but lacking in spiritual adherence) – Individuals with financial resources but weak religious engagement.
- Quadrant IV: Absolute Poverty (Deprived in both material and spiritual aspects) – Households facing severe economic hardship and low religious engagement.

In terms of the indicators of spiritual aspects, the CIBEST model has a strong foundation in line with the *Quran* and *hadith*. The spiritual indicators with the relevant *quranic* verses can be seen in Table 2.

Table 2.
Basis of Spiritual Indicators

No.	Spiritual Indicators	Relevant *Quranic* Verse(s)
1.	Faith	*Quran* 112: 1-4, 31: 22 and 33
2.	Obligatory and Recommended Prayer	*Quran* 2: 110, 2: 238, 4: 103, 17: 78, 20: 14 and so on
3.	Congregational prayer	*Quran* 2: 43
4.	Obligatory and Recommended Fasting	*Quran* 2: 183-184
5.	Zakat, *Infaq* and *Shadaqah*	*Quran* 2: 215, 254, 267 and so on
6.	Reading Al-Quran	*Quran* 2: 2, 29: 45, 38: 1, 50: 1, 56: 77-80 and 85: 21
7.	Acquiring Islamic Knowledge	*Quran* 58: 11, 20: 114, 39: 9
8.	Religious Gathering Attendance	*Quran* 58: 11
9.	Household Environment	*Quran* 20: 132
10.	Government Policy Environment	*Quran* 4: 59 and 83, 5: 51, 24: 55

Source: Ayuniyyah et al. (2022)

The spiritual indicators are measured using a *Likert* scale to evaluate the performance of households' acts of worship and environment, including prayer, fasting, zakat and charity spending, the household environment, and government policy environment. The possible responses on the scale have scored in the range of 1–5, representing ascending performances. In other words, the higher up the score means the better a spiritual condition.

For instance, if a household always performs obligatory and recommended prayer, fasting, and pays zakat and charity, it scores 5. On the other hand, if it never fulfills these obligations and blocks others from performing them, it gets 1. Similarly, if the household and policy environments are conducive for the family members to perform worship, it scores 5 because this practice will enhance the number of spiritually rich households. The spiritual threshold equals 3, which indicates a family that performs only the obligatory level of worship or fulfils its minimum obligations. A further explanation can be found in the Appendix.

The CIBEST Model contributes significantly to the field of Islamic economics and development studies by bridging the gap between conventional economic measurements and Islamic ethical values. The model also provides a holistic measurement of poverty that aligns with the *maqasid al-shariah* framework and enhances policy recommendations for Islamic social finance institutions such as zakat, waqf, and Islamic microfinance. By integrating spirituality into economic analysis, the CIBEST Model offers a paradigm shift in measuring poverty and welfare. It serves as a practical and policy-oriented tool for governments, Islamic financial institutions, and non-governmental organizations seeking to improve socioeconomic conditions while maintaining religious integrity.

2.2. Empirical Studies on Zakat Welfare

Muslim scholars from various backgrounds have highlighted the importance of Zakat as an Islamic economic instrument for reducing economic problems such as poverty and the income gap. The role of zakat in poverty alleviation and prosperity has been widely discussed in various countries, including Indonesia, Nigeria, Afganistan, Pakistan, Tanzania, Brunei Darussalam, Bangladesh, and Malaysia (Kasri & Ahmed, 2015; Mongkito et al., 2025).

Zakat is one of Islam's pillars and has immense potential and impact in solving socio-economic problems. Unfortunately, Zakat implementation in some Muslim countries is still below expectation and potential. Many scholars have researched the problem, especially finding the variables that influence the welfare of zakat beneficiaries (mustahik) because the welfare of zakat beneficiaries is the most important sign of success. Some published research concerns analyzing variables in the welfare of zakat beneficiaries.

A study by Ali et al. (2016) demonstrates that productive zakat programs yield better long-term outcomes than consumptive programs, which provide beneficiaries with financial and educational supports. The study emphasizes that factors such as education, business mentoring, and regular monitoring significantly influence beneficiaries' economic stability. Similar findings are also documented by Ayuniyyah et al. (2018 and 2022), Beik & Pratama (2016), and Mubarokah et al. (2017).

Saptia (2013) uses qualitative methods and descriptive analysis to examine the impact of productive zakat programs on women. The respondents are 100 women participating in the women's empowerment program from the Zakat Foundation of Darut Tauhid in Bandung. The study employs the number of zakat reciepients who have improvement in their businesses after receiving Zakat and various explanatory variables including age, education, number of families, the experience of business, kind of business, the value of Zakat, and frequency of Zakat. Cross-table analysis indicates that the most influencing variables of Mustahik's welfare are the value and frequency of Zakat (Saptia, 2013).

Furthermore, Riyaldi & Sari (2018) find that external factors (venture capital support, staff assistance, family support, and friend support) and internal factors (sincere intentions, the routine of prayer, giving alms, religious teachings, persistence, and responsibility, business management and cooperation) have positive and significant effects on zakat recipients. Increasing Baitul Mal Aceh's assistance and maximizing the factors that significantly influence the productive zakat program will increase the welfare of the Mustahik (Riyaldi & Sari, 2018).

Other studies, such as those by Ilhaniyah & Anwar (2019), focus on demographic factors affecting welfare. Their findings indicate that age, household size, and job status are critical determinants of success in zakat programs. Similarly, Mubarokah et al. (2017) emphasize the importance of institutional support and family structure in improving *mustahik* welfare.

Zakat distribution programs align with Sustainable Development Goals (SDGs) by addressing issues such as poverty, hunger, and inequality. It also promotes inclusive and sustainable economic growth (Haji-Othman et al., 2021; Sarea, 2020). In Kedah, Malaysia, zakat distribution has been shown to support the achievement of SDGs, where institutions have made necessary improvements to enhance their effectiveness (Haji-Othman et al., 2021).

Zakat funds are used to support various social welfare programs, including education, healthcare, and housing, which are essential for improving quality of life (Zahid & Razali, 2020; Rahmat & Nurzaman, 2019; Rosyetti, 2018). Programs like the Ummah Economic Development Zone (ZPEU) in Malaysia integrate modern technology and strategic partnerships to promote food security, human capital development, and economic sustainability (Majid et al., 2024).

In conclusion, zakat distribution programs are vital for alleviating poverty, promoting social welfare, enhancing public trust, supporting sustainable development, addressing the needs of vulnerable groups, and encouraging productive use of funds. Effective management and innovative approaches in zakat distribution can lead to significant socio-economic benefits for Muslim communities.

2.3. Gaps in Literature

Despite the growing body of research, several gaps remain. First, few studies employ robust statistical methods to analyze the combined effects of multiple variables on welfare outcomes. Traditional regression models often fail to capture these factors' hierarchical and interactive nature. The CHAID method, as used in this study, addresses this limitation by providing a detailed decision-tree analysis.

Second, the international literature on zakat's impact on welfare is limited. Comparative studies across different Muslim-majority countries are rare, which restricts the generalizability of findings. This study aims to contribute to the broader understanding of zakat's role in economic development by incorporating insights from both local and international contexts.

III. METHODOLOGY

3.1. Research Design, Sampling Technique, and Data Collection

This study employs a quantitative research design to analyze the factors that influence zakat beneficiaries' welfare. The Chi-square Automatic Interaction Detection (CHAID) method is used to identify statistically significant factors affecting changes in income and spiritual conditions. The CHAID method is particularly suited for exploring complex, hierarchical relationships among variables, making it an ideal tool for this study.

The target population consists of zakat beneficiaries managed by the National Zakat Board (BAZNAS) in five areas in West Java, namely Bogor City, Depok City, Sukabumi City, Bogor Regency, and Sukabumi Regency. These areas were selected due to their high population and significant participation in zakat programs. A purposive convenience sampling method is employed, resulting in a sample size of 1,300 respondents.

The primary data are acquired through a survey using questionnaires. This study examines two sets of data. The first data set contains pre-zakat household income and the second data set includes post-zakat household income. The pre-zakat household income data were obtained using questionnaires in each city and regency prior to the respondents' participation in the zakat distribution programs. The post-zakat income data were also acquired through the use of questionnaires one year after the respondents joining the zakat distribution programs.

The questionnaires used to gather the information relevant for this study include the following elements.

1. General information regarding age, gender, marital status, level of education attained by household heads, employment status and household size.
2. Family income from various sources, including regular and irregular income as well as income from rental assets.
3. The number of working members in the household, the expenditure and saving pattern of the households.
4. Information on the zakat allowance that is available from BAZNAS and other zakat institutions together with any subsidy received from the government. This also includes any forms of zakat distribution programs in which the respondents are involved.
5. The mentoring programs received by the respondents conducted by BAZNAS, including spiritual programs, business coaching and regular supervision.
6. Spiritual aspects as manifested in the respondents' practicing of religious injunctions in their day-to-day activities, involving the religious program as well as household environments and support from local authority.

The dependent variable in this study is the changes in household income and spiritual condition. Spirituality is measured using the CIBEST model, which

assesses practices such as prayer, fasting, and charitable giving. Respondents rate these practices on a five-point Likert scale, where higher scores indicate greater spiritual engagement. The independent variables include demographic factors (age, education, job status), household size, and participation in monitoring programs.

3.2. Analytical Method

The study employs the CHAID method, which is a decision tree technique based on adjusted significance testing. It was first introduced in an article entitled "An Exploratory Technique for Investigating Large Quantities of Categorical Data" by Kass (1980). The CHAID method is an analytical tool to generate a diagram known as a "*dendrogram*" to establish which independent variables are statistically significant in influencing the dependent variables. In our case, the independent variables are gender, age, education, job, number of dependents, number of working people in the family and monitoring programs from BAZNAS, while the dependent variable is change in income or spiritual condition of the respondents. The dendrogram represents the classification of zakat recipients based on a structured relationship between the response variables (income and spiritual condition) and the aforementioned independent variables that are statistically significant at the 5 per cent significance level.

According to Baron and Phillips, as cited in Sharp et al. (2002), the CHAID method has the following three general key elements: (i) it employs a chi-square significance test to identify the most significant independent variables; (ii) it employs the Bonferroni correction; and (iii) it uses algorithms to unite categories of the variables. Gallagher (2000) explain that the CHAID is essentially an iterative four-step process:

1. Examine predictor variables and levels of their significance. The non-significant predictors are omitted
2. Determine which of the predictors is the most significant.
3. Subdivide the data by the levels of the most significant predictor. Each of these levels will now be examined individually.
4. For each level, repeat the above process: examine the remaining variables to determine their levels of significance and then determine which predictor is the most significant and subdivide the data.

3.3. Applications in Previous Studies

CHAID analysis has been employed across various fields to uncover complex interactions within data. Research by Kumar & Kaur (2023) uses survey-based data of 600 Indian consumers from three service sectors (hotel and hospitality, automobile service centers and organized retail stores). The CHAID decision tree analysis is used to profile consumers. Botha (2024) uses the CHAID method to build decision trees to illustrate distinct entrepreneurial profiles of 1,150 South African entrepreneurs.

Cinar et al. (2018) compare influential factors of entrepreneurial activities over time in China with other selected countries using CHAID analysis to isolate

important factors that affect entrepreneurship. Mehmetoglu (2009) study a sample of 900 prospective international tourists to Norway with respect to their attitudes towards environmental sustainability on holiday using the CHAID analysis. Higueras-Castillo et al. (2025) use the CHAID method to predict consumer intention to use e-commerce applications in the post-pandemic era. de Esteban Curiel et al. (2023) opine that CHAID multivariate analysis is a valuable tool in predicting expenditure of Spanish Family, as well as determining the cause–effect relationship of this expenditure.

In this study, CHAID analysis is employed to identify the factors influencing the welfare of zakat recipients in West Java. By examining various predictor variables as mentioned in the previous part, the analysis aims to uncover significant interactions that contribute to zakat beneficiaries' welfare, providing insights for more effective zakat distribution strategies. This method allows for a nuanced understanding on how different factors affect the outcomes, facilitating data-driven decision-making in social welfare programs.

IV. RESULTS AND DISCUSSION

4.1. Demographic Analysis

Table 3 contains information on the profile of the respondents: gender, marital status, and age of the heads of household. In terms of gender composition, there appears to be an overwhelming predominance of male-headed households over female-headed households, by approximately two-thirds and four-fifths in urban and rural areas, respectively.

Regarding the marital status of the household heads, nearly two-thirds of the household heads are married in both urban and rural areas, followed by widow- and single-headed households. In other words, the majority of household heads are married. The composition of ages within households suggests that almost half of the household heads are in the 46–65 age group, followed by the adult (26–45 years old), elderly (over 65 years old) and juvenile (18–25 years old) age groups. This finding suggests that the economically productive age group is 46–65. In other words, the old-aged households are likely to earn less than the young-aged households.

Table 3.
Distribution of Household Heads Based on Gender, Status and Age

Demographic Characteristics		Area					Total (6)
		Urban			Rural		
		Bogor City (1)	Depok City (2)	Sukabumi City (3)	Bogor Regency (4)	Sukabumi Regency (5)	
Gender	Male	191 (63.67)	72 (72.00)	49 (73.13)	244 (73.27)	419 (83.80)	975 (75.00)
	Female	109 (36.33)	28 (28.00)	18 (26.87)	89 (26.73)	81 (16.20)	325 (25.00)
	Total	300 (100.00)	100 (100.00)	67 (100.00)	333 (100.00)	500 (100.00)	1300 (100.00)
Status	Married	**187 (62.33)**	**65 (65.00)**	**57 (85.07)**	**249 (74.77)**	**432 (86.40)**	**990 (76.15)**
	Single	33 (11.00)	6 (6.00)	0 (0.00)	2 (0.60)	2 (0.40)	43 (3.31)
	Widowed	80 (26.67)	29 (29.00)	10 (14.93)	82 (24.62)	66 (13.20)	267 (20.54)
	Total	300 (100.00)	100 (100.00)	67 (100.00)	333 (100.00)	500 (100.00)	1300 (100.00)
Age Group (years old)	19–25	18 (6.00)	7 (7.00)	2 (2.99)	2 (0.60)	6 (1.20)	35 (2.69)
	26–45	103 (34.33)	44 (44.00)	23 (34.33)	155 (46.55)	206 (41.20)	536 (41.23)
	46–65	132 (44.00)	44 (44.00)	34 (50.75)	158 (47.45)	243 (48.60)	615 (47.31)
	> 65	47 (15.67)	5 (5.00)	8 (11.94)	18 (5.41)	44 (8.80)	122 (9.38)
	Total	300 (100.00)	100 (100.00)	67 (100.00)	333 (100.00)	500 (100.00)	1300 (100.00)

Note: The figures in parentheses indicate the percentages for each demographic factor of the total respondents for each area.

Other important factors that might explain the magnitude of poverty are household size and the number of working members in the family. A summary of these two factors are presented in the following Table 4. The usual types of phenomena observed in the case of poverty-stricken developing countries are large family size, a higher dependency ratio and a lower number of working members in the family.

In terms of household size, Table 4 illustrates that households in rural areas have more dependents (3–4 members) than households in urban areas (1–2 members). However, there is only a very small difference in the percentage of families with 3–4 dependents in urban areas. Interestingly, the percentage of families with at least 5 members is higher for urban areas than it is for rural areas.

Table 4.
Distribution of Household Heads Based on Number of Dependents and Working Members

Demographic Characteristics		Area					Total (6)
		Urban			Rural		
		Bogor City (1)	Depok City (2)	Sukabumi City (3)	Bogor Regency (4)	Sukabumi Regency (5)	
Dependents	0–2	**147 (49.00)**	34 (34.00)	16 (23.88)	113 (33.93)	**235 (47.00)**	545 (41.92)
	3–4	97 (32.33)	**49 (49.00)**	**31 (46.27)**	**164 (49.25)**	233 (46.60)	574 (44.15)
	5–6	45 (15.00)	16 (16.00)	18 (26.87)	50 (15.02)	32 (6.40)	160 (12.31)
	> 6	11 (3.67)	1 (1.00)	2 (2.99)	6 (1.80)	1 (0.20)	21 (1.62)
	Total	300 (100.00)	100 (100.00)	67 (100.00)	333 (100.00)	500 (100.00)	1300 (100.0)
Number of Working Members	0	31 (10.33)	6 (6.00)	0 (0.00)	32 (9.61)	2 (0.40)	71 (5.46)
	1	**151 (50.33)**	**68 (68.00)**	19 (28.36)	**162 (48.65)**	227 (45.40)	**627 (48.23)**
	2	82 (27.33)	23 (23.00)	**30 (44.78)**	107 (32.13)	**239 (47.80)**	481 (37.00)
	3	29 (9.67)	3 (3.00)	12 (17.91)	25 (7.51)	22 (4.40)	91 (7.00)
	4	7 (2.33)	0 (0.00)	4 (5.97)	5 (1.50)	9 (1.80)	25 (1.92)
	5	0 (0.00)	0 (0.00)	1 (1.49)	2 (0.60)	1 (0.20)	4 (0.31)
	Total	300 (100.00)	100 (100.00)	67 (100.00)	333 (100.00)	500 (100.00)	1300 (100.00)

Note: The figures in parentheses indicate the percentages for each demographic factor to the total respondents for each area.

It is also observed that the percentage of unemployed household heads, shown as zero working members in the household, is higher in urban areas than in rural areas. Specifically, Bogor and Depok Cities respectively have 10.03 and 6.00 per cent of families with no working members, while Bogor Regency has 9.61 percent of families with no working members. This category of families derives their incomes from consumption-based zakat funds as well as from donations from other parties such as their relatives and neighbors. Sukabumi City and Regency, in contrast, contain almost no families with no working members. These findings may suggest relatively lower poverty rate in Sukabumi City and Regency compared to the other areas. Besides, a report by the Central Board of Statistics (2016) reveals that the rate of unemployment at the national level is greater for urban than rural areas (6.5 per cent vs 4 per cent, respectively).

Apart from the number of households with no working member, the data also indicate that a majority of the families in urban and rural areas consist of only one

working member, closely followed by families with two working members. The working members in such families are the household heads and their spouses. Almost one-tenth of the families in urban and rural areas contain 3 to 5 working members. Here, the 3–5 working members consist of parents and their children, with the latter entering the labor force and contributing to the family income.

In terms of the monitoring programs carried out by BAZNAS officers, there are three types of programs, namely spiritual monitoring, business monitoring and routine assistance. Information pertaining to these programs can be found in Table 5. Spiritual monitoring includes monthly Islamic gatherings for zakat recipients. Business monitoring comprises business coaching and business capacity development programs conducted at least twice a year. Routine assistance consists of regular meetings and reports provided at least twice a month.

It can be observed from Table 5 that these monitoring programs are predominantly applied by BAZNAS in Sukabumi Regency. The majority of the respondents in Sukabumi Regency participate all three programs, while less than one per cent of the Bogor Regency households do. Moreover, more than one-third of the household heads in Depok City receive a spiritual monitoring program by BAZNAS, while only 2 and 8 per cent of the households in Bogor and Sukabumi Cities benefit from such a program. It also appears that business monitoring, as well as routine assistance, programs are not delivered to the households in the three cities. It is therefore important that BAZNAS areas provide monitoring programs in order to ensure that the objectives of the zakat programs can be achieved.

Table 5.
Distribution of Household Heads Based on Monitoring Programs

Types of Monitoring Programs	Area					Total (6)
	Urban			Rural		
	Bogor City (1)	Depok City (2)	Sukabumi City (3)	Bogor Regency (4)	Sukabumi Regency (5)	
Spiritual Monitoring	2 (0.67)	35 (35.00)	8 (11.94)	2 (0.60)	467 (93.40)	514 (39.54)
Business Monitoring	1 (0.33)	0 (0.00)	2 (2.99)	4 (1.20)	391 (78.20)	398 (30.62)
Routine Assistance	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	435 (87.00)	435 (33.46)

Note: The figures in parentheses indicate the percentage of each monitoring program to the total respondents in each area.

4.2. Changes in Income and Spiritual Conditions of Zakat Beneficiaries

Given that they are beneficiaries of zakat distribution and monitoring programs, let us now look at the overall impact of zakat distribution programs in terms of altering the respondents' monthly income. Table 6 shows the impact of zakat on the respondents' monthly income prior to and one year after the zakat distribution programs in the urban and rural areas.

Table 6.
Changes in the Aggregate Monthly Income of the Respondents Before and One Year After Zakat Distribution Programs in Urban and Rural Areas (USD)

Area		Income Before (1)	Income After (2)	Percentage Change in Total Income (3)
Urban	Bogor City	138.64	156.40	12.81
	Sukabumi City	306.12	326.85	6.77
	Depok City	115.10	128.06	11.25
Rural	Bogor Regency	126.23	166.75	22.79
	Sukabumi Regency	156.20	169.98	8.82
Total	Urban	185.87	203.48	9.19
	Rural	139.87	181.27	15.32
	Total	170.37	189.61	11.29

Table 6 illustrates that respondents experienced an increase in their monthly income after participating in zakat distribution programs. Urban households recorded a 9.19 percent increase, while rural households saw a greater improvement of 15.32 percent. According to the CHAID analysis, factors such as household size and informal education significantly influence income changes.

Besides impacting the material status of the respondents, zakat programs are also aimed at improving the spiritual condition of their beneficiaries. It is hoped that beneficiaries will be spiritually better off after having received zakat. Based on Table 7, it is interesting to observe that in all cities and regencies, the spiritual condition of the observed households already exceeded the spiritual threshold (3) prior to the zakat distribution programs. It is found that, with the exception of Bogor Regency, the respondents display a better spiritual condition one year after receiving zakat. This is evident from column (3) in Table 7 that shows the percentage changes in spiritual condition from before and one year after zakat distribution programs.

Table 7.
Changes in the Aggregate Spiritual Condition of the Respondents Before and One Year After Zakat Distribution in the Urban and Rural Areas

Area		Spiritual Before (1)	Spiritual After (2)	Percentage Change in Spiritual Condition (3)
Urban	Bogor City	3.43	3.55	(+3.34)
	Sukabumi City	3.46	3.80	(+9.60)
	Depok City	3.39	3.70	(+9.36)
Rural	Bogor Regency	3.81	3.80	(-0.04)
	Sukabumi Regency	3.35	3.98	(+18.59)
Total	Urban	3.43	3.62	(+5.59)
	Rural	3.54	3.91	(+10.57)
	Total	3.56	3.89	(+9.19)

The largest positive change in spiritual condition occurred in Sukabumi Regency, by an amount of almost one-fifth. This can be understood in light of the fact that the majority of the respondents from this regency are part of a weekly spiritual monitoring program conducted by BAZNAS officers. On the other hand, the relative lack of any spiritual monitoring programs from the *'āmil* officers of BAZNAS in Bogor Regency might be the reason underlying the relatively worse spiritual condition of the respondents, although the negative change recorded there is minor (0.04 per cent). The difference in spiritual condition before and one year after receiving zakat in urban and rural areas is also statistically significant at 5 per cent. In other words, respondents involved in regular spiritual monitoring programs reported higher spiritual engagement. Rural areas, where these programs are more prevalent, saw an average increase of 10.57 percent in spiritual scores.

4.3. Factors Affecting Income and Spiritual Conditions of Zakat Beneficiaries

As mentioned earlier, this study employs CHAID analysis to analyze the factors that influence the household heads' income change and spiritual performance before and one year after zakat distribution programs. This analytical tool is used to generate a diagram called a "*dendrogram*" to determine which variables are statistically significant in influencing the respondents' change in income and spiritual condition in urban and rural areas before and one year after zakat distribution programs. The diagram represents the classification of zakat recipients based on a structured relationship between the response variables (income and spiritual condition) and several selected independent variables (gender, age, education, job, household size, number of working people in the family and monitoring programs from BAZNAS) that are statistically significant at the 5 percent level of confidence.

A summary of the factors that influence the respondents' change of income in urban areas (Bogor, Depok and Sukabumi Cities) is presented in Figure 1. According to the CHAID analysis, factors such as household size and informal education significantly influence income changes. The CHAID tree diagram (Figure 1) classifies respondents into categories based on these factors. For instance, respondents without dependents and with access to informal education demonstrate the highest income growth. Conversely, those with multiple dependents faced slower income improvements.

From Figure 1, we may note that the CHAID diagram consists of four nodes based on the significant variables that influence a change in the income of the respondents. The upper table (Node 0) represents all of the respondents in urban areas. It is observed that 52.90 percent of the urban respondents experienced a significant income change. This 52.90 percent of respondents who experienced income change is then divided into two nodes based on their number of dependents; these become Node 1 and Node 2, with the former comprising respondents who have no dependents and the latter containing respondents with one or more dependents. From Node 2, it is found that 71.90 percent of the respondents with no dependent experienced an increase in income. In contrast, the respondents in Node 3 are divided equally (as shown by the equal percentages) between having or not having an impact on income change.

Although Node 2 contains a larger number of observations compared to Node 1, the CHAID algorithm identifies informal education as a significant differentiating factor only for Node 1. This is because Node 1 consists of a distinct subgroup of zakat beneficiaries without dependents, where the impact of informal education is more pronounced and statistically significant. In contrast, Node 2 represents a more heterogeneous group (with dependents), where informal education does not show sufficient variance or statistical relevance to be split further.

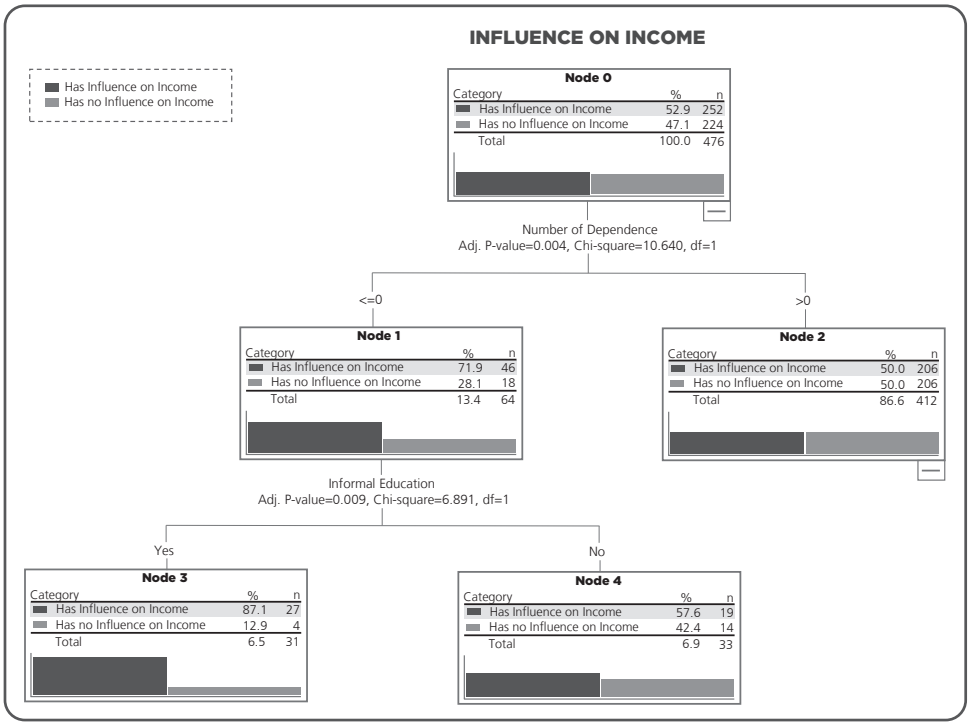

Figure 1.
The CHAID Tree Diagram - Income in Urban Areas

The respondents from Node 1 are then further divided into two groups: those who attend some form of informal education (Node 3) and those who do not attend any informal education (Node 4), in the lower columns. It is observed that 87.10 per cent of the respondents who attend informal education saw positive income change. The corresponding percentage of who do not attend any informal education is 57.60. Therefore, according to the CHAID analysis above, the urban respondents, based on the significant variables on the change of income, can be classified into the following three categories.

1. Respondents who have no dependents and attend informal education (Node 1 and Node 3).
2. Respondents who have no dependents and do not attend any informal education (Node 1 and Node 4).
3. Respondents who have one or more dependents (Node 2).

Table 8 details the number of respondents who witnessed increase and no increase in their income for the above three categories. Accordingly, classifications number 1 and 2 have had an influence on the change in income, as evident in columns (3) and (4). Families with no dependents may have advantages, particularly when it comes to the use of income. They can utilize the full amount of zakat funds themselves. The absence of any dependents might also be favorable for zakat funds in the form of consumption-based programs. Besides, in the case of the first classification of urban respondents, informal education is an important indicator for human investment and hence it plays a significant role in influencing the change in income.

There is a risk estimation of 0.471, as seen in column (5) of Table 8. This value means that the possibility of false prediction is 47.1 per cent. Kass (1980) explains that as long as the percentage of risk estimation is below 50 per cent, the model can be considered to be a good estimation.

Table 8.
Influence on Income Based on the CHAID Tree Diagram in Urban Areas

Classification (1)	Node (2)	Has Influence on Income (3)	Has No Influence on Income (4)	Risk	
				Estimate (5)	Std. Error (6)
1	1 and 3	27 (87.10)	4 (12.90)	0.471	0.023
2	1 and 4	19 (57.60)	14 (42.40)		
3	2	206 (50.00)	206 (50.00)		

Notes: The figures in parentheses indicate the percentage of households with or without an influence on income.

As for the spiritual condition of urban respondents, Figure 2 displays the CHAID diagram of urban respondents based on the spiritual monitoring programs and informal education that they are involved in. The respondents are divided into four nodes. Node 0 in the upper table shows that 55.30 per cent of the respondents saw a significant change in their spiritual performance one year after zakat distribution programs. These respondents are then further divided into two categories, namely respondents who receive spiritual monitoring programs in Node 1, and those who do not have any spiritual monitoring programs in Node 2.

From Node 1, it can be seen that 80.40 per cent of the respondents who receive spiritual monitoring programs managed by BAZNAS have seen significant improvement in their spiritual condition. This means that the spiritual supervision programs conducted by BAZNAS are important in improving the spiritual condition of their beneficiaries.

On the other hand, about 52.60 per cent of the respondents who do not receive any spiritual monitoring programs from BAZNAS are further divided into two groups, namely those who attend informal education in Node 3 and those who do not attend any informal education in Node 4. Accordingly, about 61.60 per cent of

the respondents who attend informal education have seen a significant increase in their spiritual conditions, while 53.50 per cent of the respondents who do not have any informal education background saw no improvement in the state of their spirituality.

Therefore, according to the CHAID tree diagram above, the urban respondents, based on their spiritual change, can be classified into the following three categories.

1. Respondents who participate in spiritual monitoring programs (Node 1).
2. Respondents who do not participate spiritual monitoring programs but do attend informal education (Node 2 and Node 3).
3. Respondents who do not participate in spiritual monitoring programs and do not attend informal education (Node 2 and Node 4)

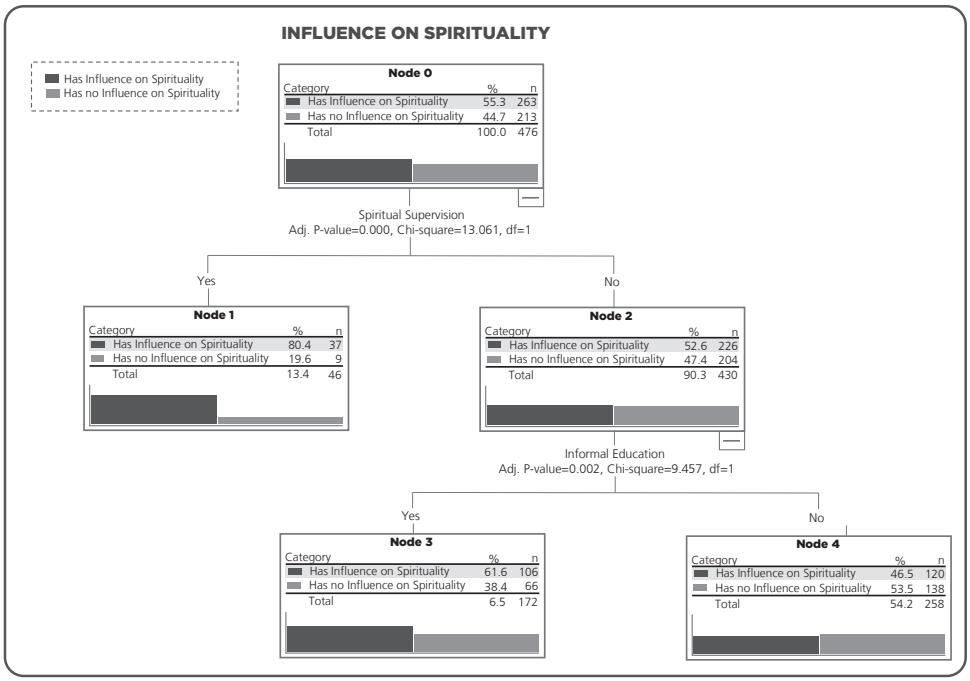

Figure 2.
The CHAID Tree Diagram - Spiritual Condition in Urban Areas

Using this classification, the subsequent Table 9 shows that only the first and second classifications of urban respondents have a significant influence on spiritual condition, as evident from column (3). In other words, both the spiritual monitoring programs from BAZNAS and the informal education of the household heads play important roles in influencing the spiritual condition of the respondents from Bogor, Depok and Sukabumi Cities. There is a risk estimation value of 0.41, as evident in column (5), which indicates that this is a good estimation (Kass, 1980).

Table 9.
Influence on Spiritual Condition Based on CHAID Tree Diagram in Urban Areas

Classification (1)	Node (2)	Has Influence on Spiritual Condition (3)	Has No Influence on Spiritual Condition (4)	Risk	
				Estimate (5)	Std. Error (6)
1	1	37 (80.40)	9 (19.60)	0.410	0.023
2	2 and 3	106 (61.60)	66 (38.40)		
3	2 and 4	120 (46.50)	138 (53.30)		

Notes: The figures in parentheses indicate the percentage of households with or without an influence on spiritual condition.

To conclude, Figure 2 presents the CHAID tree analysis for spiritual condition. Spiritual monitoring programs emerge as a critical factor, with 80.40 percent of monitored respondents reporting improved spiritual well-being. Informal education also plays a role, particularly for respondents not participating in formal monitoring programs.

This finding is interesting because both formal and informal education is likely to be the most influential factor in human capital investment. It is widely known that education makes a person more ready and know how to face and address his/her present and future problems, which, in turn, can improve the spirituality of that person. As a matter of fact, weekly Islamic gatherings held near their places of residence are the types of informal education programs attended by a majority of the urban respondents. Through this, the spirituality of the urban respondents can be improved.

Besides education, the above table also shows that the spiritual monitoring programs held by BAZNAS for zakat beneficiaries in the three cities also have a salutary effect on the betterment of zakat recipients' spiritual condition. Therefore, BAZNAS should maintain or continue such programs in order to improve the spirituality of zakat recipients.

After observing the income and spiritual changes of zakat beneficiaries in urban areas, let us now examine the influence of the aforementioned variables on the change of income and spirituality among the respondents in rural areas. The following Figure 3 contains the CHAID diagram of the significant variables influencing income of the respondents in Bogor and Sukabumi Regencies.

According to Figure 3, there are ten nodes in the CHAID tree diagram. Node 0 in the first upper column shows that only 46.30 per cent of rural respondents have any factors that influence income change. This 46.30 per cent is then further divided into two groups based on the spiritual monitoring programs they receive. These include those who do not get any spiritual monitoring programs (Node 1) and those who do receive spiritual supervision programs from BAZNAS in each area (Node 2).

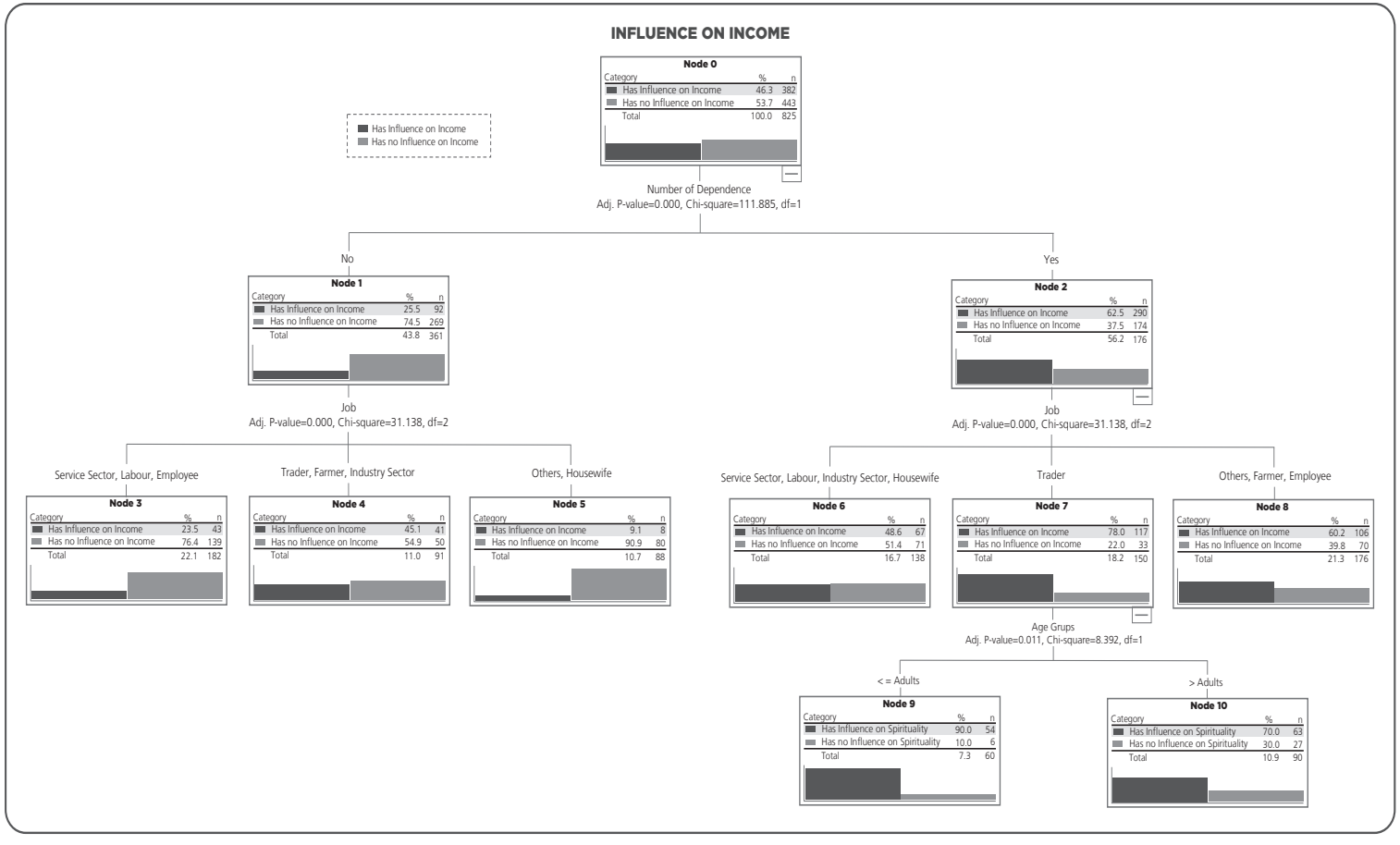

Figure 3.
The CHAID Tree Diagram of Influence on Income in Rural Areas

From Node 1, the respondents are further divided into three groups based on their occupations, including service sector workers, labor and employees in Node 3; traders (business owners), farmers and industry sector workers in Node 4, and housewife and others in Node 5. Similarly, the respondents in Node 2 are also divided into three categories based on their occupations, namely Node 6, Node 7 and Node 8. Node 6 represents those who are service and industry sector workers and housewives. The respondents in Node 7 are those who work as traders (business owners), while those respondents in Node 8 are farmers, employees and others.

From Node 7, the respondents who work as business owners are also divided into two categories based on their age. These are those who are juvenile and adults in Node 9, and those who are seniors and elderly in Node 10. Therefore, based on Figure 3, the respondents can be classified into the following seven categories.

1. Respondents who do not participate in spiritual monitoring programs, who are workers in the service sector, labor and employee (Node 1 and Node 3).
2. Respondents who do not participate in spiritual monitoring programs, who are industry workers, business owners and farmers (Node 1 and Node 4).
3. Respondents who do not participate in spiritual monitoring programs, who are housewives and others (Node 1 and Node 5).
4. Respondents who participate in spiritual monitoring programs, who are service and industry workers, labor and housewives (Node 2 and Node 6).
5. Respondents who participate in spiritual monitoring programs, who are business owners and who are of juvenile and adult age categories (Node 2, Node 7 and Node 9).
6. Respondents who participate in spiritual monitoring programs, who are business owners and who are of senior and elderly age categories (Node 2, Node 7 and Node 10).
7. Respondents who participate in spiritual monitoring programs, who are employees, business owners and others (Node 2 and Node 8).

As presented in Table 10, the respondents in categories 5, 6 and 7 are statistically significant in terms of seeing an improvement in their income owing to the presence of zakat distribution, while the respondents in categories 1, 2, 3 and 4 are not statistically significant with regard to seeing a positive change in their incomes one year after zakat distribution programs.

It appears that the spiritual monitoring programs from BAZNAS have a significant effect on the betterment of zakat recipients' productivity; hence, their income increases, as evident in column (3). Besides, the respondents aged between 18 to 65 years whose jobs are entrepreneurs, employees and others also saw a significant increase in their income one year after zakat distribution programs. It thus appears that all of the age categories among the rural respondents are economically productive. In other words, regardless of their age, as long as they receive spiritual monitoring programs from BAZNAS and work as businessmen, the rural respondents under study can significantly improve their income.

The accuracy of this prediction is measured using a risk estimate that applies to the goodness of the model. Based on column (6) of Table 10, the risk estimation value is 0.38. This indicates that the model might have an error in its prediction to the extent of 38.00 per cent, which is considered to be a good estimation (Kass, 1980).

Table 10.
Influence on Income Based on CHAID Tree Diagram in Rural Areas

Classification (1)	Node (2)	Has Influence on Income (3)	Has No Influence on Income (4)	Risk	
				Estimate (5)	Std. Error (6)
1	1 and 3	43 (23.60)	139 (76.40)	0.318	0.016
2	1 and 4	41 (45.10)	50 (54.90)		
3	1 and 5	8 (9.10)	80 (90.90)		
4	2 and 6	67 (48.60)	71 (51.40)		
5	2, 7 and 9	54 (90.00)	6 (10.00)		
6	2, 7 and 10	63 (70.00)	27 (30.00)		
7	2 and 8	106 (60.20)	70 (39.80)		

Notes: The figures in parentheses indicate the percentage of households with or without an influence on income.

After having studied the factors influencing income change among rural respondents, let us now analyze the factors influencing the spiritual condition of these respondents. The following Figure 4 presents the CHAID tree diagram of the variables that influence the spiritual condition of the respondents in rural areas. Based on the figure below, there are six nodes illustrating the classifications of rural respondents based on the change in their spiritual condition due to zakat distribution programs.

Node 0 shows that there is a positive spiritual change of about 60.50 per cent of the rural respondents. The respondents in this node are then divided into two categories based on spiritual monitoring programs. Node 1 represents those who are not part of any spiritual monitoring programs while Node 2 is for those who are part of spiritual monitoring programs. The respondents who are not part of any spiritual monitoring programs are then divided into two groups, namely Node 3 and Node 4, based on their jobs. Node 3 contains those who work as service sector workers, labor, housewives and others, while Node 4 represents those who are business owners, farmers and industry sector workers.

The respondents who are part of spiritual monitoring programs, in Node 2, are also further divided into two groups, namely those who are not part of any regular assistance programs in Node 5 and those who are part of regular BAZNAS assistance programs in Node 6. Following this classification, the respondents are thus categorized into the following four groups.

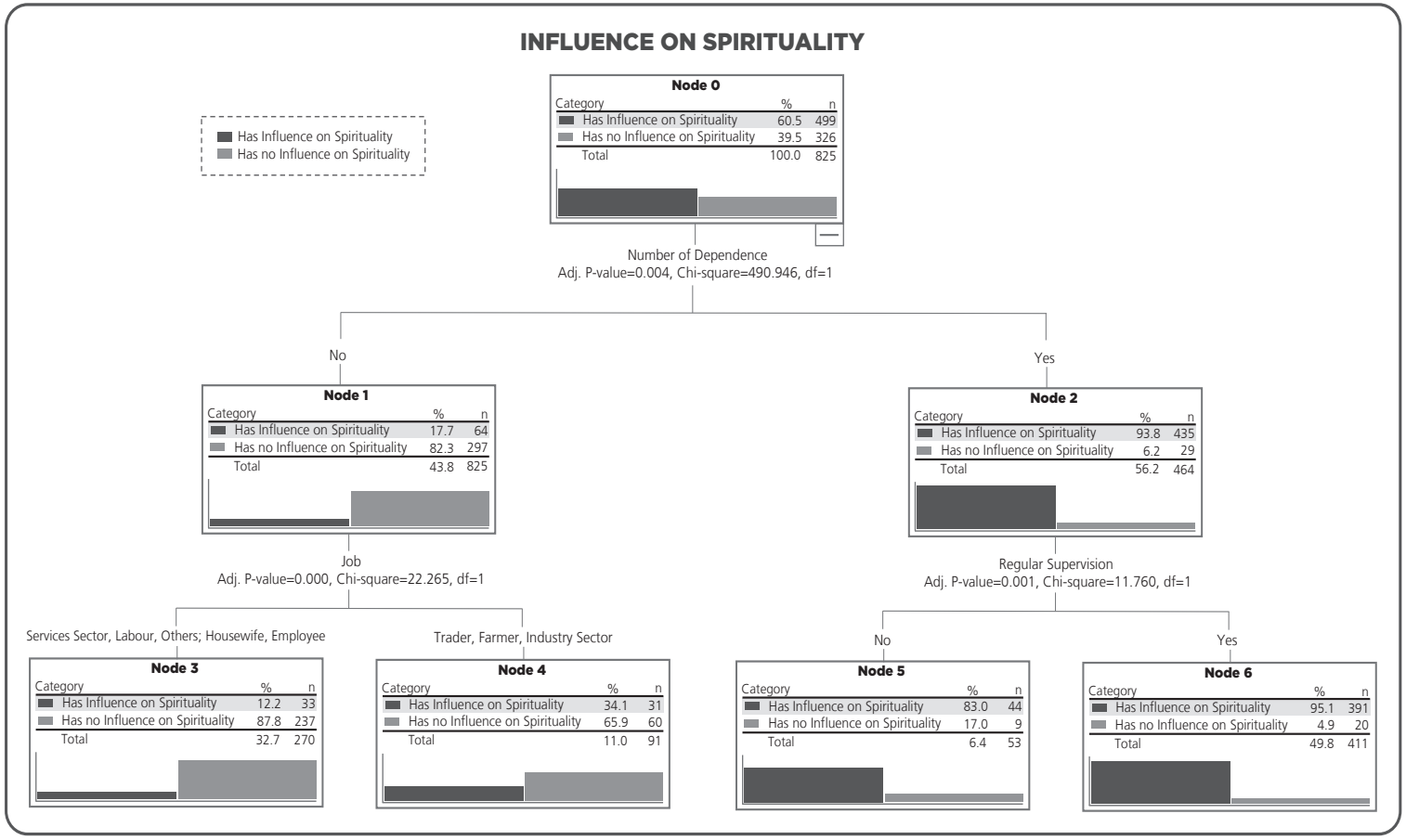

Figure 4.
The CHAID Tree Diagram of Influence on Spiritual Condition in Rural Areas

1. Respondents who do not participate in spiritual monitoring programs from BAZNAS, who are service sector workers, labor, housewives, employees and others (Node 1 and Node 3).
2. Respondents who do not participate in spiritual monitoring programs from BAZNAS, who are industry sector workers, entrepreneurs and farmers (Node 1 and Node 4).
3. Respondents who participate in spiritual monitoring programs but do not get routine assistance from BAZNAS (Node 2 and Node 5).
4. Respondents who get spiritual monitoring and routine assistance programs from BAZNAS (Node 2 and Node 6).

The aforementioned classification is presented in Table 11. It can be observed from the table that the respondents in the third and fourth classifications have seen an improvement in their spiritual condition while the respondents in the first and second classifications have not experienced any influence on their spirituality. This is evident from columns (3) and (4).

Table 11.
Influence on Spiritual Condition Based on CHAID Tree Diagram in Rural Areas

Classification (1)	Node (2)	Has Influence on Spirituality (3)	Has No Influence on Spirituality (4)	Risk	
				Estimate (5)	Std. Error (6)
1	1 and 3	33 (12.20)	237 (87.80)	0.113	0.011
2	1 and 4	31 (34.10)	60 (65.90)		
3	2 and 5	44 (83.00)	9 (17.00)		
4	2 and 6	391 (95.10)	20 (4.90)		

Notes: The figures in parentheses indicate the percentage of households with or without an influence on spiritual condition.

It is interesting to observe that similar to the previous findings for the urban respondents, spiritual monitoring programs play a significant role in influencing the spirituality of zakat recipients one year after zakat distribution programs. It appears that in order to maintain their spiritual condition, they need to be involved in the spiritual supportive environment that can be created through the spiritual monitoring programs from BAZNAS. In other words, it is necessary for spiritual supervision programs to be carried out in conjunction with zakat distribution programs.

This model has a risk estimate for prediction accuracy of 0.113. This means there is an 11.30 per cent chance of the model making inaccurate predictions. Since the risk probability is below 50 per cent, however, the model is considered to be a good estimation (Kass, 1980).

In conclusion, the analysis indicates that rural respondents generally benefit more from zakat programs than their urban counterparts. This disparity may be

attributed to the higher intensity and frequency of monitoring programs in rural areas. Additionally, the economic structure of rural households—which often includes agricultural or small business activities—may enhance the impact of zakat funds on income stability.

V. CONCLUSIONS AND RECOMMENDATIONS

The current research aims to analyze factors affecting the success of zakat distribution programs on improving material and spiritual conditions of zakat beneficiaries in urban and rural areas. It compiled data from 1,300 zakat beneficiaries managed by BAZNAS in Bogor City, Depok City, Sukabumi City, Bogor Regency and Sukabumi Regency. To investigate factors that are statistically significant in improving income and spiritual condition of the respondents, Chi-square Automatic Interaction Detector (CHAID) method is used. The CHAID analysis is employed to determine which demographic, social and economic variables are statistically significant in influencing the change in income and spiritual conditions of the respondents.

Our study suggests three key findings. First, monitoring programs, particularly spiritual and business supervision, are crucial in enhancing both income and spiritual well-being among zakat beneficiaries. Second, informal education and household size significantly influence welfare outcomes, especially in urban areas. Third, rural beneficiaries exhibit greater improvements due to the higher intensity of monitoring and support programs.

Several recommendations can be drawn from this study. First, Zakat institutions such as BAZNAS should strengthen and expand regular spiritual and business mentoring programs to ensure sustained improvements in welfare. Second, selection criteria should incorporate factors such as household size, education level, and job status to maximize the impact of zakat distribution programs. Third, programs should be tailored to address the distinct needs of urban and rural areas, focusing on education and economic empowerment initiatives in urban settings and more intensive support in rural regions.

This study highlights how zakat distribution influences income levels, allowing regulators to design targeted policies that maximize the socio-economic impact of zakat. This study provides empirical evidence to support better allocation strategies that ensures zakat reaches the most vulnerable groups effectively. Future studies should conduct longitudinal and comparative research across different regions to validate and generalize the findings. By implementing these recommendations, zakat institutions are hoped to be able to optimize their impact on both material and spiritual welfare, contributing to the broader goals of Islamic economic justice. The study also encourages synergies between government and zakat institutions for achieving national development goals to enhance economic resilience.

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APPENDIX 1. Spirituality Model

A. Spiritual Indicators

In terms of the indicators of spiritual needs, this study adopts the CIBEST spirituality model. The CIBEST model was selected over other models for several reasons. First, the simplicity of the CIBEST model makes it applicable to a large sample size. In addition, this study uses the family as its unit of analysis, which fits with the CIBEST model. Second, although it requires several extensions, the indicators of spirituality in the CIBEST model have a strong foundation in line with the *Quran* and *hadith*. Third, the model has also been adopted as national policy by BAZNAS and hence the validity of the model has been solved. It has been discussed among the experts, academicians and zakat practitioners in Indonesia through focus group discussion. It has been also acknowledged by other authority in Indonesia including BAZNAS and Central Bank of Indonesia.

The spiritual indicators of the CIBEST model are measured using a *Likert* scale to evaluate the performance of households' worship and external factors including prayer, fasting, zakat and charity spending, the household environment and government policy environment. The possible responses on the scale have scores in the range 1–5, representing ascending performances in order. In other words, responses higher up the scale represent a better spirituality condition.

For instance, if a household always performs obligatory and recommended prayer, fasting and pays zakat and charity, it scores 5. On the other hand, if it never fulfils these obligations and blocks others from performing them, it gets 1. Similarly, if the household and policy environments are conducive for the family members to perform worship, it scores 5 because this practice will enhance the number of spiritually rich households. The spiritual threshold equals to 3, which indicates a family that performs only the obligatory level of worship or fulfils its minimum obligations. The detail of Likert scale can be found in the following table.

Table A1.
Likert Scale for Spiritual Indicators

Variables	Likert Scale					Spiritual Threshold
	1	2	3	4	5	
Belief	Disbelieve in Allah and block others from believing	Disbelieve in Allah	Believe in Allah	Believe in Allah and have positive thoughts towards Him	Believe in Allah, have positive thoughts towards Him and encourage others to believe	Spiritual Threshold equals to 3 **(ST = 3)**
Obligatory Prayer	Block others from praying	Against the concept of obligatory prayer	Perform obligatory prayer but not on a regular basis	Always perform obligatory prayer	Perform obligatory prayer and encourage others to pray	

Table A1.
Likert Scale for Spiritual Indicators (Continued)

Variables	Likert Scale					Spiritual Threshold
	1	2	3	4	5	
Recommended Prayer	Block others from praying	Against the concept of recommended prayer	Do not perform recommended prayer	Perform recommended prayer but not on a regular basis	Always perform recommended prayer	Spiritual Threshold equals to 3 **(ST = 3)**
Congregational Prayer	Block others from praying	Against the concept of recommended prayer	Do not perform prayer in a congregation	Perform prayer in a congregation but not on a regular basis	Always perform prayer in a congregation	
Obligatory Fasting	Block others from undertaking fasting	Against the concept of fasting	Perform obligatory fasting but not on a regular basis	Perform only obligatory fasting	Perform obligatory fasting and encourage others to undertake fasting	
Recommended Fasting	Block others from undertaking fasting	Against the concept of fasting	Do not perform recommended fasting	Perform recommended fasting but not on a regular basis	Always perform recommended fasting	
Zakat and *Infak*	Block others from paying zakat and infak	Against the concept of zakat and infak	Do not pay infak at least once in a year	Pay zakat *al-fitr* and zakat *al-maal*	Pay zakat *al-fitr*, zakat *al-maal* and infak	
Reciting Al-Quran	Block others from reciting Al-Quran	Never recite Al-Quran	Recite Al-Quran but not on a daily basis	Recite Al-Quran on a daily basis less than 1 juz	Recite Al-Quran on a daily basis at least 1 juz	
Acquiring Islamic Knowledge	Block others from Islamic knowledge	Never acquire Islamic knowledge	Seldom acquire Islamic knowledge	Often acquire Islamic knowledge	Acquire Islamic knowledge on a regular basis	
Religious gathering attendance	Block others from attending religious gatherings	Never attend religious gatherings	Seldom attend religious gatherings	Often attend religious gatherings	Attend religious gatherings on a regular basis	
Household Environment	Forbid *ibaadah*	Indifferent on the implementation of *ibaadah*	Consider *ibaadah* as a private matter for household members	Support the execution of *ibaadah*	Create an environment which obligates the execution of *ibaadah*	

Table A1.
Likert Scale for Spiritual Indicators (Continued)

Variables	Likert Scale					Spiritual Threshold
	1	2	3	4	5	
Local Authority Support	Forbid *ibaadah*	Indifferent on the implementation of *ibaadah*	Consider *ibaadah* as a private matter	Support the execution of *ibaadah*	Create an environment which obligates the execution of *ibaadah*	

B. Spirituality Formulation

With regard to the spiritual line, this shows the spiritual conditions of the household. In order to evaluate the spiritual condition, a *Likert* scale is employed with values in the range 1–5, with 1 indicating the worst condition and 5 indicating the best condition. The scores take account of the respondents' evaluation regarding their performances of worship and the supporting environments. If they perceive themselves to have better performances with regard to prayer, fasting, giving zakat and charity and other spiritual indicators, their scores vary from 3 to 5. For instance, if they never leave or ignore obligatory and recommended prayer, they will score 5.

Following the CIBEST model, the spiritual threshold that separates spiritually poor households and spiritually rich households equals to 3 (vide Table A1). Mathematically, it can be written as follows.

$$ST = 3 \tag{1}$$

Where:
ST = Spiritual Threshold.
The general spiritual condition of households can be formulated as follows.

$$SA = \sum_{k=1}^{N} \frac{SH_k}{n} \tag{2}$$

Where:
SA = average score for spiritual condition of the observed households
SH_k = actual condition of household k
n = total number of households in the sample.

If the average value of spiritual ranking for the households exceeds the threshold (SA > ST), then generally speaking, the spiritual condition of the households in one place is good. In other words, they are spiritually rich. Similarly, if the value of spiritual average of the households is less than or equal to the threshold (SA ≤ ST), then the households of that place are spiritually poor or weak.

Another important aspect is related to the calculation of SH_k. This is obtained from the score of all of the variables observed in the household, with equation (3) below denoting the formula to compute SH_k.

$$SH_k = \sum_{h=1}^{TNH} \frac{AS_h}{TNH} \tag{3}$$

Where:
SH_k = average score of actual spiritual condition of one household
AS_h = actual spiritual score of household member h
TNH = total number of household members.
As for AS_h, the formula is as follows.

$$AS_h = \frac{OPS + RPS + CPS + OFS + RFS + ZS + RQS + KS + IGS + HS + GS}{12} \tag{4}$$

Where:
AS_h = actual spiritual score of household member h
OPS = obligatory prayer score
RPS = recommended prayer score
CPS = congregational prayer score (for male respondents)
OFS = obligatory fasting score
RFS = recommended fasting score
ZS = alms and donation score
RQS = reading *Quran* score
KS = acquiring Islamic knowledge score
IGS = Islamic gathering attendance score
HS = household environment score
GS = local authority support score.

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