

Zakat and Human Development: An Empirical Analysis on Poverty Alleviation in Jakarta, Indonesia¹

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Along with the trend of development in the world, objectives of improving the welfare become no longer merely from looking at the indicator of economic development, but also include human development. Meanwhile, Zakat is now becoming important and significant instruments in efforts to improve the welfare of the poor in Indonesia's contemporary.

Departing from the above conditions, this study aims to look at the impact of productive-based Zakat effectiveness in improving the welfare of Zakat recipient (mustahiq). Indicator of welfare is not only measured by the economic indicator, but it is also including education and health which are summarized in the Human Development Index (HDI). HDI value is then compared with the average value of regional and national level, and tested whether Zakat affect the value of HDI and its components

The Result of the estimation of HDI in mustahiq shows that the average value reached 69.43. This value is however still below the current average HDI of Jakarta (77,36) and at the national level (71,76). The given productive-based Zakat, with the regression method, also does not directly affect the value of HDI. But interestingly, this kind of Zakat supposed has an effect on revenue allocation changes from consumption expenditure for productive purposes.

Keywords : Productive-based Zakat, welfare, Human Development Index, Mustahiq

I. Introduction

Concern for poverty is not new, and has been the focus over the centuries by historians, sociologists and economists. Its causes have been identified, ranging from deficiencies in the administration of income support to injustice of the social and economic system. Various measures have been put forth, from the reform of social security systems to changes in the form of socioeconomic systems. Since poverty is a multidimensional problem, solutions to

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poverty require a comprehensive set of well-coordinated measures such as social security system³.

On the other hand, in line with trends in world development, poverty issues can not be seen from economic indicators such as income per capita only. Eradication of poverty as a policy orientation should also be looked at aspects of how the overall human development achievement. In addition to aspects of economic capital, other indicators that are also considered important are social capital, health aspects, and also education. Therefore, the goals and objectives development are becoming no longer merely economic development, but it includes human development.

United Nation Agency for Development (UNDP) has developed a Human Development Index (HDI), as indicators of human development, which comprises 3 basic components that can generate a measure for reflecting the efforts of human development in a region. Its components are: opportunities life (longevity) which measured by average life expectancy, access on knowledge as measured by the percentage of literacy adults and school participation rates obtained from the ratio combined enrollment in school from primary school to the school level continued upward, and a decent standard of living as measured by revenue per capita in purchasing power parity in U.S. dollars.

A recent report from the UNDP is only put Indonesia at position 111 from 182 countries in Human Development Index ranking. With a very low HDI value of 0.734, the country is indeed still classified in the category as a country with middle ranking as last year. However, compared with ASEAN countries, Indonesia's position is very bad. Indonesia is just higher than Vietnam, which a few years ago could have ranked higher, and some poor countries in ASEAN such as Laos, Cambodia and Myanmar⁴.

Achievements reflected through the HDI are correlated with the dimensions of welfare. HDI indicators illustrate the level of basic quality of life and human capability. Indicators of life expectancy represent the dimensions of a long and healthy life; indicators of literacy rate and an average length of the school portray the output of the dimensions of knowledge and purchasing power indicator reflects proper dimension of life. Thus, the low HDI ranking of Indonesia shows that the quality of human welfare in Indonesia is still at awful level. In fact, because the HDI indicators basically refer to the concept of basic human capabilities, it can be said that the Indonesian people are still very difficult to meet all the basic needs. In other words, instead of living on the easy way, the Indonesian people still do not get rid of poverty cycle (Suharto, 2002).

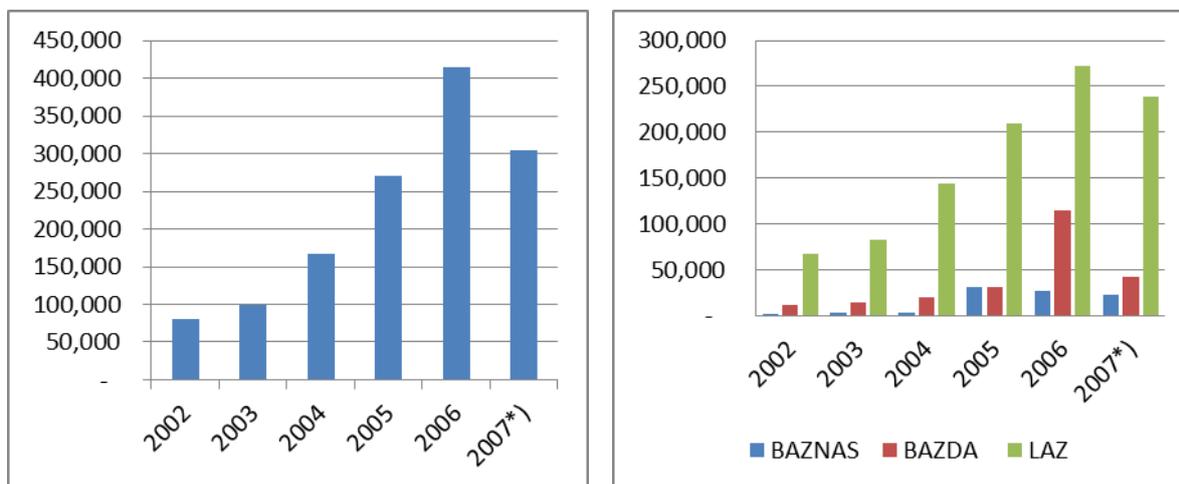
The dimensions of development issues in Indonesia consequently require a comprehensive tool and measurable accomplishments. Efforts to overcome the problem of human development are not just of how to accelerate the reduction in the number of poor people, but more importantly is how to improve the welfare of the poor. Developed countries were able to reduce absolute poverty to its minimum level through the implementation of social security systems. Such comprehensive social security systems are absent from developing countries such as Indonesia. However, as a Muslim country, Indonesia can utilize the institution of Zakat which becomes the part of the socio-economic framework that could play a similar role, in a different way.

³ Shirazi (2006), page 2

⁴ HDI Report (UNDP 2006-2009)

Zakat is now become one of the important instruments to increase the wealth of the poor in contemporary Indonesia. As a collection of funds growing significantly, the utilization of Zakat funds has now been transformed from the charity purpose into the social empowerment and economic development⁵. Nationally, the amounts of Zakat funds that have been collected by all the Zakat Institutions were rising significantly for couple of years. Zakat funds collected increased from approximately 80 billion rupiah in 2002 to 414 billion rupiah in 2006, or an average annual growth of 51.65% during the period 2002-2006.

Chart 1. Zakat Collection in Indonesia (Million Rupiah)



Source : FOZ, BAZNAS, IZDR 2010

Furthermore, to strengthen the institutions of Zakat and also to further optimize the management of Zakat in Indonesia, the Directorate of Zakat was established in 2001, under the Ministry of Religious. In addition, local governments also began to accommodate the implementation of the Law of Zakat No. 38/1999 by issuing regional level regulation (Perda) about Zakat in their respective areas. This positive condition gives impact on the rapid growth of Institution of Zakat, which until year 2006 it has been formed a government-run institution of Zakat (called Badan Amil Zakat, BAZ) at all 33 provinces, 277 numbered at district level institutions, and at sub-district level approximately reached 3160 BAZ unit. While on the other side, the privately owned institution of Zakat, (called Lembaga Amil Zakat, LAZ) amounted to around 200 organizations⁶.

I.1 Research Objectives

Based on the above mentioned conditions, therefore, this study will attempt to examine the utilization of productive-based Zakat experimental program conducted by Zakat organization for poverty alleviation purposes in the perspective of human development. Indicators of achievement in the components of human development index (HDI) will be expected provide a better success parameters of the Zakat productive scheme that organized by Zakat organization.

Simply, these goals are broken down as follows:

⁵ Indonesia Zakat Development Report (IZDR) 2009, page 12.

⁶ IZDR 2009, page 9.

- a) Estimating the value of education index, real income index. Life expectancy index. Then , based on these values, forms Human Development Index for each family of Zakat recipients
- b). Comparing the estimated HDI to the national average of HDI
- c). Estimating factors that could affect the HDI of mustahiq

II. Literature Review

This chapter presents literature review of this paper. Three areas close to the main topic, i.e. Zakat and human development, are introduced: (i) Zakat and Welfare, (ii) Related Empirical Researches, (iii) and Important Concepts

II.1 Zakat and Welfare

The impact of Zakat on human welfare increasing is something that theoretically significant and built-in in the Islamic system. Al-Qur'an mentions the needy and the poor is the first two groups from eight groups within recipient list Zakat (mustahiq). They are given priority by al-Qur'an to receive Zakat. This shows that addressing the problem of poverty is the main aim of Zakat (Qardhawi, 1997). Furthermore, with the distribution characteristics mentioned above, Zakat becomes a very effective instrument to reduce poverty level as it is inherently pro-poor and self-targeted. The priority channeling Zakat fund to the poor people has run by almost all institutions Zakat managing in Indonesia through various program in order to improve the welfare of ummah ⁷.

Chapra (2000) says that Zakat is a religious instrument that assists individuals in society to help the needy and poor people that are not able to help themselves. Although this instrument is very potential to encourage poverty reduction, it does not eliminate the obligation of governments to create prosperity. Zakat is also not replacing the components of government expenditure for welfare and the government budget for disaster management. The Zakat charity, however, is expected to partly fulfill the necessities of life that can be shifted to the more capable community, especially to close relatives and neighbors of the individuals associated.

There are several other reasons why Zakat becomes an effective tool. First, the use or allocation of Zakat has been determined precisely in the Shari'a (QS At Taubah: 60) where Zakat is only given for eight classes (*ashnaf*), namely: *fuqara* (needy), *masakin* (poor), *amilin alaiha* (the manager of Zakat), *muallafat ul qulub* (the person who newly converted to Islam), *fir riqab* (freed slaves), *gharimin* (people who owe), *fi sabilillah* (fighting in Allah's way), and *ibn us sabil* (people who were on the way) . Muslim scholars agree that in addition to this eight groups, it is not lawful to receive Zakat.

Secondly, Zakat levied on a broad base and include a variety of economic activities. Zakat levied on agricultural products, pets, gold and silver deposits, commercial activities, commercial and mining goods taken from the earth. Contemporary fiqh of Zakat is even also taken of all revenues generated from the physical and financial assets and expertise of workers. Thus, Zakat is a very big potential source. This becomes an important basis for funding the programs to eliminate poverty.

⁷ IZDR 2010, page 76

Third, Zakat is a spiritual tax paid by every Muslim under any circumstances. Therefore, the acceptance of Zakat fund is relatively stable. This will ensure the sustainability of poverty alleviation programs which typically require a relatively long period of time. Because of these characteristics, the presence of Zakat in the socio-economic framework of Islam will become a strong basis for sustainable poverty alleviation programs. As an instrument of human development, Zakat will be superior compared to fiscal instruments that currently exist.

Furthermore, with the general phenomenon of contemporary poverty classified as structural poverty, the tendency of utilization of Zakat funds are now increasingly focused on development and empowerment programs. Utilization of traditional Zakat programs that are exclusively charitable and consumptive oriented is no longer sufficient to liberate humankind from the downturn. By joining the development and empowerment programs, the poor people will have both physical and financial capital enable them to grab opportunities to be wealthier. It is expected that these people will have the ability to help themselves, regardless of dependency on social structure, political economy that is not aligned to them.

This opinion is held by Qaradawi (1997) who argued that Islam requires the work of capable people without seeing their social status. Islamic teaching also emphasizes that the poor should be given the access and or facilities to get a job so he can be independent. Indonesian Ulema Council (MUI) has also long been issuing a fatwa that Zakat funds provided for the needy and poor can be in the productive forms, while part-due to *Fisabilillah* can be distributed for *maslahah 'ammah* (public interest) ⁸. Islamic Fiqh Academy (1986) even allows the use of surplus funds of Zakat on income generating investments. The fund eventually will be owned by those who are entitled to the Zakat, to the extent it is done after the basic and urgent needs of *mustahiq* are fulfilled and with sufficient guarantees against losses.

II.2 Related Researches on Zakat and Welfare

Zakat in the contemporary world, especially after the collapse of the Islamic Caliphate, has a little impact on poverty reduction because of the weakness of the Islamic state in regulating and managing it. However, due to the growth of Islamic financial and economic institutions, attention to Zakat as part of Islamic financial institution is increasing now. Consequently, at the micro level, and also by using simulations to determine the impact at the macro level, many studies have been conducted to analyze the important factors of the Zakat to improve the economic welfare of the poor in the economy.

The literature on Zakat, generally can be classified into three categories. The first category is related to *fiqh* Zakat (Islamic rules and other legal issues). It is done by the majority of classical jurists (Islamic scholars) and some contemporary Islamic economists. This category are usually discussing about the law, principles, and philosophy of Zakat. Qaradawi (1997) has very well summarized most of the issues relating to the principle of Zakat and its philosophy, and within a limited range also recently been described by Mahmud and Haneef, (2008).

⁸ See fatwa MUI about Zakat fund for productive activities and public interest on 8 Rabi'ul Akhir 1402 H/ 2 February 1982 M.

The second category is related to the management of Zakat. Kahf (1999) broadly discuss issues about the management of Zakat by using a cross-country from Saudi Arabia, Malaysia, Libya, Pakistan and Sudan. Islahi (2005) on the other hand, cites a number of studies conducted in certain countries, such as Azharuddin (1988) in Bangladesh, Faridi (1993 and 1995) in India, Ajeel (1995) in Kuwait, Abdul-Wahab (1995) in Malaysia, Khan (1993) in Pakistan, Jamjom (1995) in Saudi Arabia, Mohammad (1995) in Sudan, and Balogun (1999) in Nigeria.

The third category relates to the economic of Zakat. This category consists of works that include the effect of Zakat on the aggregate economy, production, consumption, and investment. It also covers the relationship between Zakat and the macroeconomic model, socio-economic role of Zakat and its distributive effect: and the difference between Zakat and taxation or social security system in conventional area.

This paper is categorized in the the third type because the topic of this paper highlights the linkage between Zakat and the welfare of mustahiq Zakat. Next, some brief review of related topics will be described into the case of Indonesia, and in the case of other countries.

In the case of Indonesia, some considerable empirical researches have been conducted. Some of them are done by Abdullah (1991), Susanto (2002), Susanto (2002), Khatimah (2004), Sina (2005), Arif (2006), Muhtada (2008), and Beik (2010). However, except for Beik (2010) which uses a large enough sample, the majority of this literature is limited in scope or methodology. Another weakness is they only highlighting the indicators of income to determine the impact of Zakat on the economic well-being.

For example Khatimah (2004) who elaborates the impact of Zakat to increase mustahiq society economic welfare as the object of Zakat distribution through productive financing, and examines deeply the counseling program conducted by Community Development Circle (CDC) at Dompot Dhuafa Republika, the biggest Zakat institution in Indonesia . To support her research, she made observation, interview, and work together with CDC intensively. This research also explores the correlations between gender, education, business kind, and total financing of Zakat, to the mustahiq per capita income. She was using non parametric wilcoxon signed rank, correlation method, and ordinal regression to get the statistical result.

Based on statistical test, the result shows the most of program partner get significant increasing of their income after being given Zakat through financing models. He also found that gender, education level, the total Zakat received, and the type of business together influencing on the rate of income significantly. This result is confirmed by Sina (2005), who also employed the similar statistical method to find the impact of Zakat to income of mustahiq. Sina used the length of business instead of the business category, but this variable is statistically insignificant.

By using Sen Poverty Index which combines the headcount ratio, income-gap ratio and the Gini coefficient, Susanto (2002) tried to discuss about Zakat as an alternative to anti-discrepancy and anti-poverty policy. The results show that this kind of charity is effective in reducing inequality and poverty in the society in Indonesia .In a broader context and deeper, the identical results were presented by Beik (2009) which simulating the role and scope of Zakat for poverty reduction in Indonesia. In terms of micro and macro, he found that this kind of charity could play an important role in asset redistribution policies, capacity building, and

creation of wealth. However, again, the main drawback of these two study is that the measurement that only in economic variable

Meanwhile, a large number of related studies have been conducted in other Muslim countries with a wider scope and deeper methodology. Some examples are conducted by Salleh and middle (1991), Faiz (1991), Shirazi (1994 1996); Hussain and Shirazi (1994), Nasar Toor (2001), and Patmawati (2006) which focused on the relationship to poverty and Zakat, and its empirical distribution at the micro level. Several other studies have tried to simulate the effect of Zakat at the macro level to see the effectiveness of Zakat on economic indicators (see Billah (1996), Hossain (2005), Shirazi (2006), Hassan and Khan (2007), Ahmed (2004, 2008). However, the majority of studies above are only analyzing in the perspective of income, without further analyze the impact of Zakat on other social indicators such as education and health.

For instance, Shirazi (1994) discussed the effects of *Zakat* and *ushr* on poverty alleviation in Pakistan. The study found that *Zakat* alleviated poverty about 2.0 percent in 1987-88. Hussain and Shirazi (1994) found that the system of *Zakat* practiced in Pakistan was not capable to bridge the poverty gap. Nevertheless, the poverty gap could be reduced if *Zakat* is collected to its potential. In 1996, Shirazi advanced his previous study to analyze the impact of Zakat and 'ushr on poverty alleviation in Pakistan.

By using FGT (Foster, Greer and Thorbecke) index, Shirazi (1996) finds that in 1990-1991, 38% of all Pakistani's households stood under their country's official poverty line, but figure would have been slightly higher, 38.7% in the absence of obligatory and voluntary Zakat transfer. He also indicates that the poverty gap had declined from 11.2% to 8% with the existence of the voluntary Zakat transfers. His study also suggests that Zakat has no significant impact on the average disposable income of any income deciles but the lowest.

In this study, Shirazy is briefly showing the condition on education and health in conjunction with poverty. But he just explores descriptively, without showing quantitatively the impact of Zakat. Thus one would not know how far the improvement these indicator by receiving Zakat fund.

Another example is Patmawati (2006) who examines the role of Zakat in reducing income inequalities and poverty in the state Selangor, Malaysia. Employing purposive sampling method and the Lorenz curve and Gini coefficient, she finds that Zakat distribution has positive contribution in reducing income inequality, whereby the bottom 10% of population receiving almost 10% of the total income and the top 10% of the population income portion reduced to 32%. Before Zakat is distributed, the bottom 10% of the population enjoys only 0.4% while the top 10% of the population enjoy 35.97%. Lorenz curve shows that with Zakat distribution, it moves closer to the perfect equality line as compared to pre-Zakat Lorenz curve. Gini coefficient depicts that Zakat distribution has reduced income inequality in Selangor which is indicated by the declining value of Gini coefficient from 0.52 to 0.47.

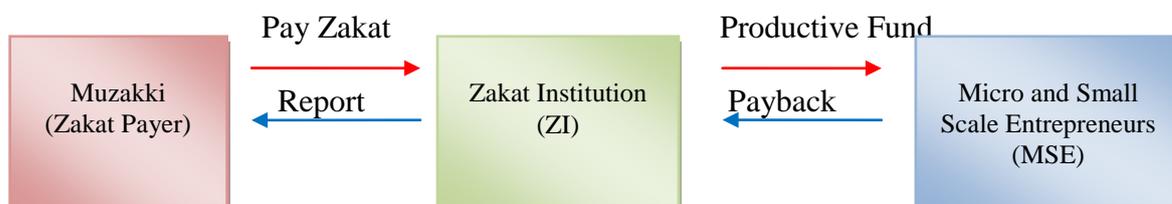
Therefore, until now there have been no specific studies on the relationship between Zakat and human development. Several studies that tried to see the impact of this just put them in a descriptive part. Thus this becomes a major weakness of the empirical literature that examines the impact of Zakat on improving human welfare in the context of broader human development.

II.3 Important Concepts

This part will show briefly some important concept discussed throughout this article. There are two concepts: first is how the productive-based Zakat program works, and second is the explanation of HDI and general method to estimate it.

Productive-based Zakat program

Figure 1. The productive-based zakat mechanism



This research is focused on analyzing the economic impact of productive based Zakat programs in increasing the welfare of the poor. The figure above explains the practice of productive-based Zakat distribution programs that is conducted by Zakat Institution. After muzakki pays Zakat fund to the Zakat Institution, this institution is then allocating it for the micro and small scale entrepreneurs who need the fund. Financing is given on the basis of qard hasan scheme. It is because of two main reasons. The first is related with the availability of the fund which is limited. Once the fund is returned after a year, then it will directly be allocated to the other micro and small scale entrepreneurs. The second reason is to educate the recipients to be responsible for the fund they receive. They should not misuse the fund and should not use it in the matters other than the business. For accountability purpose and as required by the Zakat Act, The Zakat Institution publishes audited report on annual basis, and monthly progress report to its muzakki.

HDI Estimation

Fukuda-Parr (2003) identifies three possible approaches to defining and measuring welfare: (a) the neo-liberalism approach which emphasizes utility maximization (GDP per cap), (b) the basic-needs approach which emphasizes commodity availability (potable water, caloric consumption, etc.), and (c) the human development approach (i.e. the HDI) which emphasizes human functions and capabilities (e.g. literacy, life expectancy, and GDP per cap). The Human Development Index is chosen to represent human development in this study at least for two reasons: first, the HDI purports to broaden the dimension of human development measured by the first two approaches. Second, the Human Development Index is accepted as a standard measurement of well-being by all three Bretton Woods Institutions (World Trade Organization, 2002; The World Bank, 2006; International Monetary Fund, 2000).

In the late 1980s, Mahbub ul Haq collaborated with Amartya Sen for future publication of United Nations Human Development Reports (Sen, 1999). Sen's approach to human development revolved around the development of human capabilities (i.e. "to lead the kind of lives we have reason to value") (Sen, 1999:285). The first Human Development Report

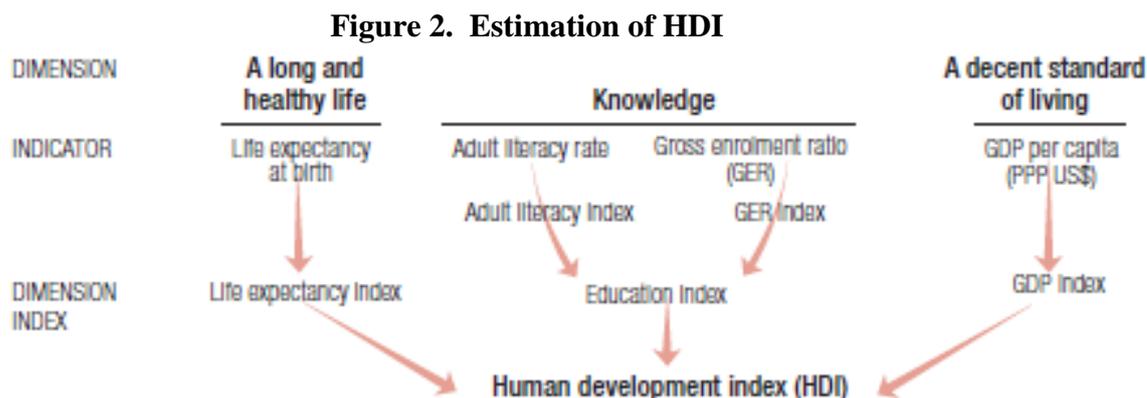
(HDR) in 1990 operationalized Sen's conceptualization of development by creating the Human Development Index

The Human Development Index was implemented in 1990 by the United Nations Human Development Programme. Since its inauguration, the HDI has been the subject of intense examination. The most pointed criticism was that the HDI failed to measure the true depth of inequality within any one country. While this criticism is well noted, however, almost all countries still use this measure as the best indicator of people welfare achievement.

The Human Development Index (HDI) reflects three 'dimension' of welfare measurements : a long and healthy life (longevity), knowledge (education), and a decent standard of living (income). Each 'dimension' has indicator that are life expectancy at birth, adult literacy rate and gross enrollment ratio, and GDP percapita. These indicators are then transformed in dimension indices by using general formula (UNDP, 2001, p.239):

$$\text{Index} = \frac{\text{Observed value} - \text{Worst value}}{\text{Best Value} - \text{Worst Value}}$$

Where observed value is the measurement of each indicator at each level observed, best value is the maximum value that can be reached, and worst value is the minimum value that can be achieved. Both the maximum and minimum value was established by UNDP in 1994. The following figure displays the main idea of the HDI estimation.



Source : UNDP , 1990

The final index is then an average of the three dimension indices:

$$\text{HDI} = 1/3 (\text{life expectancy index}) + 1/3 (\text{Education index}) + 1/3 (\text{GDP index})$$

III. Methodology

III.1 Data Sources

This study will use primary data which obtained through a questionnaire survey. This survey will be distributed to the beneficiaries of Zakat in the form of productive activities. The field study is conducted in the region of Jakarta for several months. Jakarta is chosen to be a research area mainly due to the best prototype of Zakat program in Indonesia is currently in the capital region.

The study population was defined as a group of people who have received financing productive than Zakat institution in Jakarta, Indonesia. There is no accurate information related to this population. However, based on data from Zakat Organization Forum (FOZ), currently there are 19 Zakat institutions operating in Jakarta. This database will be used in determining the sample of study. The sample is then defined as the number of clients who have chosen to represent the entire population.

This study used *cluster sampling method* to generate samples. Cluster sampling has been used in various studies that measure the impact of the financial institutions, mainly on microfinance- based, in improving the welfare of the poor. This research uses a two-stage sampling methods in conducting the survey. First, choose the Zakat institution that becomes the object of this research. Third, do a simple random sampling to produce the survey respondents in the Jakarta area.

In this study, the criteria of Zakat recipients used in the sample were those who had become mustahiq for at least 6 months⁹, and receive the fund in the form of productive scheme. This criterion is made assuming that the recipient of Zakat will utilize the Zakat received for activities that are expected to affect not only to the increased income, but also the level of health and good education. Furthermore, six months is assumed as a criterion that is considered minimally adequate to see the results of utilization of Zakat that received by mustahiq.

III.2 Human Development Index (HDI) estimation technique

HDI value is obtained from the composite index, calculated as the simple average of: (1) Life Expectancy Index as measured by life expectancy, (2) Education Index as measured by literacy rate, and average length of school, and (3) Income Index as measured by the average of the adjusted real consumption or real income per capita adjusted for purchasing power of each family.

HDI value ranges from "0" up to "100". This means that the lower the HDI value of a community / household means getting weaker / lagging development of the community. Value of standard index used in this study largely conform to international standards, and also combines with national standards:

⁹ At the beginning, this criterion is planned at least 1 year. But because of the limitations of database in Zakat institution that surveyed, then the criterion was changed to 6 months.

Table 1. Minimum - maximum value of HDI indicators

HDI indicator	Maximum	Minimum	Source
Life Expectancy	85	25	UNDP
Literacy Rate	100	0	UNDP
Average length of school	15	0	UNDP
Adjusted per capita Consumption	Rp. 1,332,700	Rp. 900,000	Statistical Office of Jakarta

Unlike the standard method which is estimated by UNDP for comparison between nations and is also used by most countries for comparison between local regions level, this study will make some changes in the method that needed for the estimation at the level of families and individuals. This new approach will use some characteristics of the targeted responden and combined with the average national data.

The detail estimation for each component is as follow:

Life Expectancy Index

Currently, Life expectancy index used by UNDP and a Country in the HDI estimation at the national level considers the condition when the individual was born. Similarly, for the provincial, and district levels, where it has become the standard preparation of HDI value internationally. However in this study, to estimate the value at the household level, there will be an adjustment in the method by considering the age distribution of the population. In the other word, life expectancy at a certain age will be evaluated instead of using the life expectancy at birth.

But then this technique raises other issues in the form of the same life expectancy values for individual who has similar age and sex, although they showed different levels of income. Therefore, as suggested by Torre and Moreno (2010), life expectancy estimation at the family level will be adjusted with a variable amount of income and age through *an imputation method*¹⁰.

Model specification is as follows:

$$Ex_{a,g} = \alpha_0 + \alpha_1 (\ln income f) + \alpha_2 (gender) + \alpha_4 (age) + \alpha_5 (age)^2 + u$$

The explanations of this method are as follows:

Where $Ex_{a,g}$ is the life expectancy by age (a), gender (g) based on secondary data available . Due to limited data statistics in Indonesia, the value of life expectancy based on age will be

¹⁰ One should be very clear that since we are using imputation method the HDI we are calculating for each household is not the 'true' HDI of that household. But it is the HDI for this 'type' of household (with the particular characteristics that affected the imputation).

taken from Wealth Health Organization¹¹. And because the data available is in 5 year-age classification, then the life expectancy of each respondent will be incorporated into this existing classification for the range from year 0 – year 100. Then, *income f* is the per capita income for each family and *gen* is dummy variable for gender

The second stage of calculating the value of life expectancy at the household level is by taking into account the life expectancy of an individual (i) which has been adjusted to every individual in the sample. Individual life expectancy index is calculated as follows:

$$IHi = \frac{Ex\ a,g,\ (i) - Ex\ a,g,(min)}{Ex\ a,g\ (max) - Ex\ a,g\ (min)}$$

Where *IHi* is the life expectancy index for individual (i); *Ex a,g,(i)* is the life expectancy of an individual (i) which was adjusted for age, and sex ; Then *Ex a,g (max)* and *Ex a,g (min)* is an international standard data for the maximum and minimum life expectancy which is taken from WHO by considering the distribution among the countries¹²

The final stage is, calculate the life expectancy index for households "h" obtained from the average index for the entire family:

$$IHh = \sum (IHi/n)$$

Where *n* is the number of household members in the household "h"

Knowledge Index

Knowledge index uses two indicators, namely an average length of school and literacy rate. Calculations in this study will follow the standard definitions by the government of Indonesia. The average length of the school aims to describe the number of years used by the population aged 15 years and over in undergoing formal education. While the literacy rate is the percentage of the population aged 15 and above who can read and write Latin letters or other letters.

Then in the process of computation, the two indicators are combined after each is given weight. The average is weighted one-third old school and the literacy rate is weighted two-thirds.

For the calculation of the index of knowledge, two limits are used according to international agreements. The upper limit for the literacy rate, used for a maximum of 100 and a minimum of 0 (zero), which describes the condition of 100 percent or all of the communities are able to read and write, and reflect the condition of zero value otherwise.

Average length of school education variable is calculated from the highest education level attained and which is being occupied, which asked in the questionnaire survey. The table below presents the conversion factors of each education level attained. For those who did not complete a full education level, length of school (YS) is calculated based on years achieved

¹¹ www.who.int/healthinfo/statistics/mortality_life_tables/en/index.html

¹² The Information of the threshold with the 5-year age range obtained from Torre and Moreno (2010). Then the author did some adjustment in each age limits for every countries in the list

Table 2. Conversion of Education Level

No	The Highest Level of Education	Year Conversion
1	No School	0
2	SD(Elementary)	6
3	SLTP (Junior High School)	9
4	SLTA (Senior High School)	12
5	Diploma 1	13
6	Diploma 2	14
7	Diploma 3	15
8	Bachelor Degree	16
9	Master Degree	18
10	Doctorate Degree	21

Then the formula for calculating the education index :

$$\text{Education Index} = \{2/3 [(Lit - 0)/(100 - 0)] + 1/3 [LS - 0] / (15 - 0)\} \times 100$$

Where:

Lit: Literacy rates

LS: length of school experience

0: minimum rate for literacy and length of school

100: Maximum number of Lit

15: The minimum number for LS

Indeks of Income

The third dimension of measuring of the quality of human life is decent living standards. In a broader scope, it describes the level of prosperity enjoyed by people as a result of better economic condition. Living standards, in this study, will be estimated directly by calculating adjusted real per capita expenditure

The first step is to calculate the monthly income expenditure of each mustahiq's family. It was actually planned by following the standard method used by government which is based on the prices of 27 commodities¹³. But after two times of pre-test, the questions of the standard method can not be answered properly by the respondent¹⁴. As the alternative, therefore, this study derives the expenditures into 14 components that are considered capable of covering all expenses for the consumption needs of a family in a month¹⁵.

¹³ The list of commodities can be seen in http://www.p2kp.org/pustaka/files/POU_PNPM_2008/Lampiran-1_Info-ringkas-IPM-dan-MDGs.pdf

¹⁴ This raises a question how the government get this data

¹⁵ This is used based on the feedback from the two times of pre-test

The commodities that used in the questionnaire are in the table below:

Table 4. Expenditure Items

No	Items
1	Expenditure for basic needs (such as rice, sugar, cooking oil, wheat, etc)
2	For vegetable and side dishes
3	Children snacks consumption
4	Cigarretes
5	Instant Noodle
6	Staple food (eaten at home)
7	Staple food (eaten at school / work)
8	Petrol cost / Transportation cost
9	Childs Education
10	Gas/Kerosene
11	Electricity
12	House Rent
13	Home Telephone
14	Mobile phone credit

The next step is to adjust the value of expenditure to the Purchasing Power Parity (PPP) - in units of U.S. dollars. This method is also used by majority of Countries to adjust Gross Domestic Product per capita to have a standard cross-country comparison in calculating the HDI at international level.

Where:

Adjusted Purchasing Power = Expenditure family per year x (national GDP deflator / US GDP deflator)

The last step to get a decent living standard index is to include the value of adjusted purchasing power into a formula below:

$$\text{Indeks } X_{ij} = \frac{\log X_{ij} - \log X_{\min}}{\log X_{\max} - \log X_{\min}}$$

Where $X(i, j)$ is the purchasing power that has been adjusted to the family i ; $X(\min)$ is the minimum purchasing power for a year at the international level which

is amounting to U.S \$ 100; and $X(max)$ is the value of maximum purchasing power for a year, which by UNDP was set at U.S. \$ 40,000

III.3 Factors Affecting HDI Value

This section will explain the factors or variables that used in the regression methods to see if that factors affecting the value of HDI. The variable definitions are as follows:

Response variables / Dependent:

In this study, the response variable is the value of HDI family that has been estimated from the previous section, and also the index components that form HDI.

Explanatory variables include:

1. Number of Family Members
Family members are all members of the family who still live in one house including a householder who receive productive Zakat
2. The value of Zakat (Rupiah)
Stating how much the total amount of financing obtained from Zakat institution
3. Business Type
It is the classification of productive activities carried out by Zakat recipient which are divided into three job categories:
 1. Distribution
 2. Production
 3. Service
4. Experiences/Age of business
It is a representation of experience in conducting business activities before and after receiving financing

IV.Findings

This section will present findings and analysis that related to the purpose of this study. Based on the sampling method, we finally choose 2 Zakat institutions and then get 110 families (recipients of Zakat) as the sample data that used for this study. The recipients of Zakat based on the data can be classified according to three types of business, namely: Distribution, Production, and Services.

- Types of business included in the distribution are like vendor of mobile phone voucher, grocery shops, vegetable vendors, clothing sellers on credit. About 47% of 110 sample data is categorized in this type.
- Types of businesses included in the Production are like cooked rice and food vendors, fried chicken vendor, and the seller of boiled noodle. The Zakat recipient in this category is about 41%
- The types of businesses included in Services: computer rental, photo copying services personal parking services. There are 12% of sample has this type of businesses

Meanwhile, for purposes of calculating the HDI, only 90 families that successfully calculated from 110 samples distributed. Incompleteness of questionnaires taken is a major cause of 20 samples of data can not be processed further. We obtained that the average HDI of all Zakat recipients is about 69.43, while the lowest value of HDI is 47.83 and the highest is 81.37. In general, we found that this average HDI value of Zakat recipient is below the average HDI in

regional level (Jakarta) , and at national level of Indonesia. Government has announced that the average HDI in Jakarta this year reached 77.36 while at the national level is 71.76¹⁶

Based on the categorizations of HDI that used by The United Nation Development Program, the majority of families has HDI value at a low category. Most of families which is about 57% have only HDI less than 0.7 – the upper limit of low category. Only about 3% of them have values at a high HDI category that is between 0.8 – 0.9 , while the rest are in a group with medium HDI.

Table 5.
Distribution of HDI value and Its Components (%)

	HDIf	Gdpf	Lifef	Knowf
Low	57	71	100	4
Middle	40	21	-	1
High	3	8	-	95
Very high	-	-	-	-
TOTAL	100	100	100	100

Source : Data Estimation.

Explanation : HDIf is HDI for a family, Gdpf is Income Index for a family, Lifef is Life Expectancy Index for a family, and Knowf is Knowledge index for a family.

For the distribution details of HDI components can be explained briefly as follow. First for Index of knowledge. Index of knowledge contributes very positively in the formation of mustahiq's HDI value. From the table above, it appears that the majority of recipients of Zakat and their family have excellent knowledge index, which are categorized at a high and very high categories. Only 4% had a low knowledge index value. In fact this is consistent with the result of raw data where 100% of recipients of Zakat are literate and the majority of them have of high school education.

Second, unlike the result in the knowledge index, all the recipient of Zakat and his family are in low life expectancy index category, i.e below 0.70. This shows the health condition of Zakat recipients and their family should receive a larger share of attention from the Zakat institution. Alternative programs including the provision of facilities and access to health services could give a significant impact, in addition to direct health consultation and continuity continuity of mentoring program for Zakat recipient.

Third, not much different from the life expectancy index, the majority of recipients of Zakat and the family also have a low value on the index of income. 71% of them are categorized in the low group, whereas about 21% in the medium index category. The low income index is thought to have an impact on the low life expectancy index. This is because the method of computation for life expectancy that incorporate elements of income. Consequently, it can be estimated that a low level of income will make them difficult to maintain a good health condition

¹⁶ One should also be very clear that these are indeed not exactly comparable since the calculations used different method. But it is very usefull and can be used for evaluation purpose of HDI at household level for mustahiq.

From the HDI estimation results, it can be deduced that the average recipients of Zakat are still in a relatively low level of welfare. Their achievements are under the average HDI level of population in Jakarta and in Indonesia. Although they had several periods to utilize the productive Zakat, it was not enough to increase the value of HDI to at least reach the average level of achievement for overall population in Indonesia.

Finally, multiple regression simulations are performed to see whether Zakat has an effect to HDI and or to its components. After doing some simulations, we have four models that considered have a meaning and also have some important information regarding the variables that considered give impact to the HDI value and its components. Variable *Zakat* is the amount of Zakat received by the mustahiq of Zakat, while *Logiz* is log of Zakat. *Dist* and *Prod* is distribution and production; type of businesses conducted by mustahiq of Zakat. *Member* is the number person in a family of Zakat's recipient, and *exper* is the length of time of doing the productive activities or business.

Table 6. Regression Result

	Hdif (1)	Hdif(2)	Famincome(3)	Gdpf(4)
Zakat		-1.45e-06 (-0,38)	-0,05 (-0,24)	-7,06e-06 (-0.93)
Logiz	0,003 (0,39)			
Dist		-0,03 (-1,60)	440,89 (0.37)	-0,02 (-0.58)
Prod		-0,01 (-0,99)	1259,15 (1.02)	0,02 (0,64)
Member		-0,01 (-4,17)*	77.38 (0.28)	-0,03 (-4,60)*
Exper			-55,12 (-0,94)	

Source : Data Estimation

From the results obtained, as in Table 6, it can be shown that the variable Zakat has actually no effect directly on the HDI value. In the model 2, variable Zakat is indeed has a very small value but it is negative and statistically is not significant, thus making this meaningless. From some simulations, only the variable number of family members that statistically has significant effect to the HDI (model 2) and income index (model 4). The value obtained is negative; indicating the number of families varies inversely with HDI value that was reached.

What interesting is that the productive Zakat turned out to affect the variable family income (model 3), and also to income index (model 4). Both values are negative although not statistically significant. This can be interpreted that the provision of productive Zakat is responded negatively by consumption expenditure needs of the family. Predictably, there are shifting allocations of consumption expenditure to be for productive activities performed. However this needs further verification by extending the number of samples in other research

V. Conclusion

The dimensions of development issues in Muslim countries, particularly Indonesia, are requiring a comprehensive and scalable tool. Efforts to address the problem of human development can not rely solely on government policy, but also need to be supported by a credible sub-programs and strategies. This supported program is expected can improve the welfare of the poor which in the Islamic teaching is in the form of Zakat institution.

There have been many studies done on Zakat, both in Indonesia, and in the context of other Muslim countries.. However, the majority of these studies are only highlighting the economic aspects or income, without considering other, more comprehensive measure. In line with the trend of development, the Human Development index is currently considered to be one measure that gives a better picture of the level of human development and welfare.

By applying a new method to estimate the value of HDI at the level of individuals and families, this study tries to calculate the HDI of families receiving Zakat. The study also aims to see how far the achievement of successful productive Zakat program by analyzing the value of mustahiq's HDI, and what factors are thought to influence it.

The result of research shows that the average HDI mustahiq is lower than the average HDI both in Jakarta and at the national level. This could imply that the impact of Zakat on the welfare mustahiq is not very well or take some times to see its more effectiveness. While Zakat is not directly influence the value of HDI, it supposed to affect negatively the family income estimated from real spending. This means that the Zakat fund is used for productive purposes rather than for consumption purposes.

However, further research is needed to clarify the findings in this study. The sample criterias and also its quantities are advised to be modified to obtain more objective results. The minimum length of time can be extended to one year. Moreover the observed mustahiq Zakat can also received education and health programs in addition to productive program, thus the general picture of human development program could be achieved from this Zakat productive scheme. Finally, the most important is the comparasion between periods that needed to see whether there is a progress on the value obtained

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Appendix 1. The Result of HDI for every mustahiq (family)

Family	Knowledge	Life Expectancy	Income	HDI
1	0.83	0.56	0.59	0.66
2	0.91	0.55	0.54	0.67
3	0.87	0.53	0.66	0.69
4	0.87	0.55	0.58	0.66
5	0.91	0.50	0.76	0.72
6	0.49	0.39	0.61	0.50
7	0.90	0.54	0.90	0.78
8	0.86	0.56	0.80	0.74
9	0.91	0.53	0.48	0.64
10	0.80	0.03	0.60	0.48
11	0.93	0.61	0.70	0.75
12	0.90	0.48	0.76	0.71
13	0.89	0.49	0.76	0.71
14	0.90	0.59	0.61	0.70
15	0.92	0.51	0.85	0.76
16	0.90	0.62	0.34	0.62
17	0.93	0.49	0.49	0.64
18	1.01	0.51	0.90	0.80
19	0.84	0.50	0.53	0.62
20	0.87	0.50	0.51	0.63
21	0.93	0.58	0.53	0.68
22	0.92	0.54	0.47	0.64
23	0.87	0.59	0.47	0.64
24	0.83	0.56	0.70	0.70
25	0.93	0.61	0.78	0.77
26	1.00	0.61	0.72	0.78
27	0.96	0.45	0.69	0.70
28	1.02	0.50	0.50	0.67
29	0.90	0.45	0.52	0.62
30	0.96	0.52	0.44	0.64
31	1.01	0.53	0.54	0.69
32	0.93	0.60	0.53	0.69
33	0.93	0.61	0.70	0.75
34	0.93	0.61	0.64	0.73
35	0.96	0.49	0.70	0.72
36	0.88	0.53	0.61	0.67
37	0.80	0.60	0.68	0.69
38	0.91	0.62	0.60	0.71
39	0.90	0.61	0.58	0.69
40	0.93	0.62	0.52	0.69
41	0.93	0.46	0.74	0.71
42	0.93	0.60	0.74	0.76
43	0.87	0.61	0.61	0.70
44	0.93	0.61	0.68	0.74
45	0.43	0.61	0.67	0.57
46	0.93	0.59	0.61	0.71
47	0.93	0.53	0.61	0.69
48	0.90	0.60	0.60	0.70
49	0.98	0.48	0.49	0.65

50	0.97	0.55	0.61	0.71
51	0.90	0.59	0.61	0.70
52	0.93	0.60	0.64	0.72
53	0.93	0.61	0.76	0.77
54	0.93	0.58	0.59	0.70
55	0.87	0.61	0.51	0.66
56	0.87	0.61	0.61	0.70
57	0.93	0.42	0.79	0.71
58	0.93	0.50	0.73	0.72
59	0.93	0.57	0.85	0.79
60	0.92	0.55	0.52	0.66
61	0.94	0.55	0.57	0.68
62	0.91	0.56	0.44	0.63
63	0.92	0.47	0.42	0.61
64	0.94	0.50	0.59	0.68
65	0.93	0.51	0.63	0.69
66	0.78	0.36	0.57	0.57
67	0.88	0.52	0.73	0.71
68	0.80	0.41	0.67	0.63
69	0.98	0.62	0.70	0.77
70	0.93	0.62	0.63	0.73
71	0.93	0.50	0.63	0.69
72	0.87	0.50	0.54	0.63
73	0.93	0.61	0.68	0.74
74	0.98	0.58	0.67	0.74
75	0.93	0.49	0.59	0.67
76	0.90	0.47	0.56	0.64
77	1.01	0.62	0.62	0.75
78	0.90	0.59	0.54	0.67
79	0.95	0.59	0.61	0.72
80	0.91	0.58	0.80	0.77
81	0.91	0.58	0.53	0.67
82	0.91	0.51	0.60	0.67
83	0.93	0.60	0.78	0.77
84	0.91	0.54	0.61	0.69
85	0.88	0.49	0.50	0.62
86	0.93	0.57	0.94	0.81
87	0.80	0.60	1.01	0.80
88	0.87	0.60	0.86	0.78
89	0.84	0.58	0.76	0.73
90	1.00	0.61	0.77	0.79

Appendix 2.
Lower-Upper Limit of Life Expectancy by Age
for Men and Women

age	Lm	hm	Lf	hf
0	47.6	80.1	50.4	86.1
1	49.8	79.3	43.9	85.4
2	49.2	78.2	43.3	84.4
3	48.6	77.1	42.7	83.4
4	48.0	76.0	42.1	82.4
5	47.4	74.9	41.5	81.4
6	46.5	73.9	40.58	80.42
7	45.6	72.9	39.66	79.44
8	44.6	72.0	38.74	78.46
9	43.7	71.0	37.82	77.48
10	42.8	70.0	36.9	76.5
11	41.8	69.0	36	75.5
12	40.9	68.0	35.1	74.5
13	39.9	67.0	34.2	73.5
14	39.0	66.0	33.3	72.5
15	38.0	65.0	32.4	71.5
16	37.1	64.0	31.48	70.52
17	36.1	63.1	30.56	69.54
18	35.2	62.1	29.64	68.56
19	34.2	61.2	28.72	67.58
20	33.3	60.2	27.8	66.6
21	32.4	59.2	26.94	65.6
22	31.5	58.3	26.08	64.6
23	30.7	57.3	25.22	63.6
24	29.8	56.4	24.36	62.6
25	28.9	55.4	23.5	61.6
26	28.2	54.4	22.92	60.62
27	27.5	53.5	22.34	59.64
28	26.9	52.5	21.76	58.66
29	26.2	51.6	21.18	57.68
30	25.5	50.6	22.1	56.7
31	25.2	49.6	20.4	55.74
32	24.8	48.7	20.2	54.78
33	24.5	47.7	20	53.82
34	24.1	46.8	19.8	52.86
35	23.8	45.8	21.9	51.9
36	23.7	44.9	19.36	50.92
37	23.7	43.9	19.12	49.94
38	23.6	43.0	18.88	48.96
39	23.6	42.0	18.64	47.98

40	23.5	41.1	20.7	47
41	23.3	40.2	20.68	46.04
42	23.1	39.2	20.66	45.08
43	22.8	38.3	20.64	44.12
44	22.6	37.3	20.62	43.16
45	22.4	36.4	20.6	42.2
46	21.3	35.5	20.4	41.24
47	20.3	34.6	20.2	40.28
48	19.2	33.6	20	39.32
49	18.2	32.7	19.8	38.36
50	17.1	31.8	19.6	37.4
51	16.7	30.9	19.36	36.48
52	16.3	30.0	19.12	35.56
53	15.8	29.1	18.88	34.64
54	15.4	28.2	18.64	33.72
55	15.0	27.3	18.4	32.8
56	14.6	26.4	17.76	31.88
57	14.2	25.6	17.12	30.96
58	13.8	24.7	16.48	30.04
59	13.4	23.9	15.84	29.12
60	13.0	23.0	15.2	28.2
61	12.6	22.2	14.6	27.32
62	12.2	21.3	14	26.44
63	11.8	20.5	13.4	25.56
64	11.4	19.6	12.8	24.68
65	11.0	18.8	12.2	23.8
66	10.5	18.0	11.66	22.92
67	10.0	17.3	11.12	22.04
68	9.6	16.5	10.58	21.16
69	9.1	15.8	10.04	20.28
70	8.6	15.0	9.5	19.4
71	8.2	14.3	9.06	18.58
72	7.8	13.6	8.62	17.76
73	7.4	12.9	8.18	16.94
74	7.0	12.2	7.74	16.12
75	6.6	11.5	7.3	15.3
76	6.3	10.9	6.94	14.56
77	6.0	10.4	6.58	13.82
78	5.6	9.8	6.22	13.08
79	5.3	9.3	5.86	12.34
80	5.0	8.7	5.5	11.6
81	4.7	8.2	5.22	10.96
82	4.5	7.7	4.94	10.32
83	4.2	7.3	4.66	9.68
84	4.0	6.8	4.38	9.04

85	3.7	6.3	4.1	8.4
86	3.5	5.9	3.88	7.86
87	3.3	5.5	3.66	7.32
88	3.2	5.2	3.44	6.78
89	3.0	4.8	3.22	6.24
90	2.8	4.4	3	5.7
91	2.7	4.1	2.86	5.32
92	2.5	3.8	2.72	4.94
93	2.4	3.6	2.58	4.56
94	2.2	3.3	2.44	4.18
95	2.1	3.0	2.3	3.8
96	2.0	2.8	2.18	3.56
97	1.9	2.7	2.06	3.32
98	1.8	2.5	1.94	3.08
99	1.7	2.4	1.82	2.84
100	1.6	2.2	1.7	2.6

Where

Lf : Lower limit for Women

Hf : Upper limit for Women

Lm : Lower limit for Men

Hm : Upper limit for Men

List of Abbreviation

ASEAN (Association of South East Asian Nation)

BAZ (Badan Amil Zakat)

BAZDA (Badan Amil Zakat Daerah)

BAZNAS (Badan Amil Zakat Nasional)

FOZ (Forum Zakat)

HDI (Human Development Index)

IZDR (Indonesia Zakat Development Report)

LAZ (Lembaga Amil Zakat)

MUI (Majelis Ulama Indonesia)

UNDP (United Nation for Development Program)