

Poverty Alleviation through Zakat and Income Distribution on Agriculture of Local Commodity, Honey Pineapple, in Pemalang Regency

Indin Rarasati¹, Diah Setyawati Dewanti, M.Sc., Ph.D*

¹Economics Department, Faculty of Economics and Business,
University of Muhammadiyah Yogyakarta, Jalan Brawijaya, Kasihan, Bantul, Yogyakarta 55183 Yogyakarta,
Indonesia

*) Corresponding email: ddewanti@umy.ac.id

Abstract: This research has an aim to study the comparison from level of income distribution and poverty index before and after the Zakat on agriculture applied in Beluk village, Pemalang regency. Beluk village supply high quality local pineapple fruits in Indonesia and brought pineapple to improve the income and alleviate the poverty of pineapple farmers. As common people know, zakat can distribute the income of Muslim equally. Nevertheless, Zakat as an instrument in Islamic able to alleviate the poverty. This research use of purposive random sampling in order to get 100 people as sample size. The respondents consist of honey pineapple local farmers who live in Desa Beluk and local people of Desa Beluk as non-farmer. In order to know the level of inequality from income distribution, the research measured Gini Index, Lorenz curve, and World Bank's criteria as the tool to gain the research objective. In order to know the level of poverty, this study use FGT index to measure headcount ratio, poverty gap index, and poverty severity index as the tool of analyzing. Through the system of income distribution as the legal principle in Islamic economics, Zakat on agriculture decrease the level of inequality as Gini Index 0.45 and causes the income the distribution on Desa Beluk more equal after the Zakat of agriculture enacted. To recognize the level of poverty in terms of proportion, depth and severity of poverty, this study measured FGT index through head count ratio, poverty gap index, and poverty severity index. It shows decreasing index after the zakat on agriculture measured which proof Zakat on agriculture is directly reduce the poverty index. The head count ratio is decrease 0.01, poverty gap index decrease as 0.08 and poverty severity index decrease as 0.298.

Keywords: Zakat on agricultural, Inequality, Distribution of Income, Poverty, Beluk village

1. BACKGROUND

A local commodity, especially agricultural commodities can be considered as an important in every region of Indonesia either as icons, souvenirs by tourists, and as a source of income for people. For example, Yogyakarta is famous with typical commodities thorny palm *pondok*, would make farmers in Yogyakarta making thorny palm *pondok* as a source of their incomes. Other agricultural commodities that serve as a source of income for the farmers are honey pineapple of Pemalang.

In recent years, honey pineapple of Pemalang has increased in demand both from inside and outside of the city. Its popularity can be seen that many merchants of honey

pineapple on the outskirts of the street in major cities such as Jakarta, Surabaya, Yogyakarta and others. Certainly, it will increase the income of honey pineapple farmers in the Beluk village on Pemalang Regency as the biggest producer of honey pineapple where 90% of the population are farmers and farm workers in pineapple honey's sector.

Unfortunately, inequality and poverty still become a problem and it must be solved. Some of honey pineapple farmers are large landholder with income in one harvest can reach into tens millions of rupiah, whereas he is able to harvest twice a year. However, not all farmers even farm laborers are prosperous society because its main job depend on the

honey pineapple, some of them are still below the poverty line.

According to the data shows the number of poverty in Belik mentioned as the total poor households in the district Belik 2014 are 1,816 poor households are located in the Beluk village, it indicates that the number of poor people in the Belik village is still high, it reaches 14,9%. Considering the whole population of this village are Moslem, there is a solution to overcome the problems of inequality and poverty in this village, by managing and allocating agricultural zakat of honey pineapple as the local commodity in Pemalang Regency and especially Beluk village. The Zakat potential of honey pineapple farm in this village reached Rp 163.77 million in one-time harvest, if this potential can be able to managed and utilized properly then the potential can reduce the poverty and gap of income.

As it was done by Beik (2009), through Sen and FGT index, it shows that the zakat is able to reduce the level of poverty. Of the various facets of poverty ranging from the proportion of the number, depth and severity of poverty has decreased which indicates that poor people are more prosperous with the distribution of zakat. Meanwhile, a similar study was also conducted by Adebalki (2013) who found that the zakat is able to increase the number of families who get benefit from the zakat and it is able to alleviate poverty in Bahrain. Both of these studies become the basis of research on poverty reduction and equitable income distribution using Islamic economics instrument that always in accordance with the development of this more modern era.

The phenomenon of globalization could not reduce the moral, law, and duty in issuing charity because it will remain throughout their civilization people's lives, especially for Moslem. Zakat has been used since around 662 Masehi, it was during the period of Prophet Muhammad and today zakat is still be relevant instrument for reducing poverty and inequality. Therefore, zakat will remain an instrument that it always in accordance with nowadays modern era.

Poverty has always been associated with the disparity or gap distribution of income. According to Sen (1976) and Forster et al. (1984) in Sugiyarto, et al. (2015), disparity is cannot be separated from poverty, because the gap is part of the poverty. Meanwhile Rodriguez-Paso and Hardi (2015) in Sugiyarto et al (2015) argue that there is a positive correlation between poverty and inequality, both spatial and interpersonal, but a stronger correlation occurs between poverty and the inequalities between individuals or interpersonal rather than poverty and spatial disparities.

Poverty is a problem that hits almost all countries in the world although the frequency is not the same. Therefore there has been a continuous growth, but poverty remains a matter which continues to be fought nowadays, especially in the developing countries. Generally, economic growth was able to increase the family income, but along with that disparity helped inhibit poor people in order to obtain a part of a larger growth (Mankiw, 2014).

2. RESEARCH METHODOLOGY

The area of study was took in Beluk village, Belik District, Pemalang Regency, Central Java, Indonesia. While the objective of this study is to analyze the inequality of income distribution in Beluk village before and after potential zakat of honey pineapple have allocated.

This study use primary data as on data income, expenditure of farmer in Beluk village, and the measurement of zakat potential. To support this research, the secondary data was obtained from official government sites such as the Central Bureau of Statistics especially BPS Pemalang and the official government website Beluk Village.

This research use of purposive random sampling to get 100 people as the sample size. To determine the sample, researchers using Taro Yamane (Taro Yamane, 1967) to calculate the required sample size:

$$n = \frac{N}{N d^2 + 1}$$

n = number of samples
 N = Number of population
 d = level of significance

To analyze the data, the writer uses the Lorenz curve, Gini index, and Criteria World Bank to determine the changes in inequality due to the distribution of zakat potential honey pineapple farm in the village of outs. Meanwhile, to determine changes in poverty levels using FGT Index there are headcount ratio, poverty gap index, and poverty severity index.

3. RESULT AND DISCUSSION

3.1 Rate Disparities

Based on the calculation of the Gini index according to the ratio of the Lorenz curve with half of total square of the Lorenz curve, as seen from the Lorenz curve occurs are quite different with the situation before zakat is distributed. It can be seen from the following Lorenz curve:

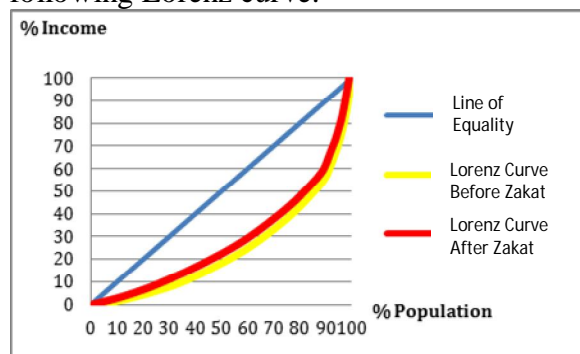


Figure 1. Lorenz Curve before and after distribution of armer in zakat potential

In Lorenz curves bounded by a blue line is equalization and the yellow Lorenz curve is the Lorenz curve before distribution of zakat agriculture potential, while the red is Lorenz curve after the distribution of it. Both of the Lorenz curve illustrate the condition of inequality in the Beluk Village. According to the second area of the Lorenz curve shows that the inequality in the distribution of income after zakat allocation for agricultural

potential is smaller than the previous situation. The red line indicates the degree of inequality in income distribution, it is closer to the line of equalization though the shift is not quite significant. This shows that the zakat is able to reducing inequality. The degree of inequality also can be shown by the Gini index which is calculated from the breadth of Lorenz curve.

Table 1. Calculation Results of Gini index

Condition	Before	After
Formula	$G_1 = \frac{Field A}{\Delta ECD}$	$G_2 = \frac{Field B}{\Delta ECD}$
SizeRegions Lorenz curve	25.40	22.64
Gini Index	0.51	0.45

Source: Result of data Microsoft Excel

Based on Gini index value which is calculated from the Lorenz curve, the level of inequality in Beluk Village before zakat in agricultural potential have allocated, it is categorized as **high inequality** because the Gini index is >0,50. Compared with a Gini index of income distribution after zakat, there is a decreasing. Gini index which is worth 0,45 can be categorized as **moderate inequality**. This shows that in general, zakat is able to flatten out the distribution of income and reduce the inequality through the distribution to the group who deserve it.

3.2 World Bank Criteria

According to the level of inequality absolute represented by the Gini index, the analysis of inequality based on the World Bank criteria are used to see how much of the revenue received by the society based on group earnings. Grouping of income according to World Bank criteria are divided into three parts, there are 40% of low-income residents, 40% of middle income and 20% of high-income population. The amount of income received by the people will have an impact on how significant the expenditure for the daily needs (Makmur, et al, 2011).

Table 2. World Bank Criteria Before Distribution Potential Agricultural Zakat

Household Group	Percentage of Income (%)		Amount of Income (Rp / 6 month in million)	
	Before	After	Before	After
40% Lowest	12.46	15.92	379.6	479.4
40% Middle	30.68	30.66	934.4	923.2
20% Highest	56.85	53.42	1731.4	1608.3
Total	100	100	3045.3	3010.9

According to the calculation, before distribution of agricultural zakat potential of honey pineapple, 40% of the lowest income residents receive 12.46% of total income of the villagers sample with the amount of 379.5 million rupiahs. It shows that the inequality before allocating zakat potential yet is belonging to the **moderate inequality** or moderate limp inequality. While the decline in inequality after the distribution of zakat which is indicated by increasing the percentage of income received by the 40% lowest-income population with an increase of 3.46% by total increase in revenue is 99.88 million rupiahs.

3.3 Poverty

The analysis of poverty is explained through the calculation of the index Foster-Greer-Thorbecke or FGT index consist of headcount ratio, poverty gap index, and poverty severity index. Headcount ratio is used to measure the proportion of poor people among the entire population. While the poverty gap index and poverty severity index is used for each measure poverty depth and severity of poverty.

Table 3. FGT Index Calculation Results

Foster-Greer-Thorbecke Index	Index Value	
	Before	After
headcount ratio (P0)	0.03	0.02
Poverty Gap Index (P1)	0.09	0.01
Poverty Severity Index (P2)	0.34	0.042

According to the criteria of World Bank that the poor people are the one who has per capita income of less than US \$1.9. That is

why, the results show that the number of poor people with incomes below US \$1.9 or 25.650,00 rupiahs (rounding), was only 3 people. The value of headcount ratio with this criteria when the zakat has not allocated is 0.03, while thereafter dropped to 0.02. Meanwhile, according to the criteria of Islam, the poor before their zakat headcount ratio has a value of 0.21.

After the distribution of agricultural zakat potential by spreading equally the zakat potential of agriculture to the people who are considered as poor according to the World Bank and Islam, poverty levels have been decreased. When referring to the World Bank, the population whose income is less than Rp 25.650,00 left one person with *the value of headcount ratio* or $P_0 = 0,01$. In other words, agricultural zakat only make poverty rate fell by 0.02 or it can reduce the number of 2 poor villagers. Whereas, poverty according to Islamic criteria, the distribution of zakat potential farm to the recipient of zakat or *mustahiq* is based on the needed of them. It makes the poor people in the village of outs remaining 6 people, in other words headcount ratio is worth 0,06.

To see the depth and severity of poverty before and after the distribution of agricultural zakat potential of honey pineapple, the researchers used the calculation of *poverty gap* and *poverty severity index* as the tool of analysis. Unlike the calculation headcount ratio, this calculation is only conducted in the classification of the poor by the World Bank as it requires revenue figures that show the poverty line is US \$1.9 per day. Whereas in Islam it is not specified how much revenue a minimum one should have to say that it is below the poverty line.

According to the calculations of poverty gap, before the potential of agricultural zakat distributed to the poor people, value of $P_1 = 0,09$. The decline in poverty rates occurred after the distribution of income through distribution of potential agricultural zakat of honey pineapple which becomes 0.01. This large decline indicates that poverty still exists in the village but people is still experiencing

poverty, they have a better life with the distribution of zakat agriculture. Meanwhile, according to the severity of poverty also decreased. Rated poverty severity before allocation of potential agricultural zakat is 0.34 and conditions thereafter decreased to 0.0042. This situation indicates that despite the poor are still there, but the situation is not as bad as the time has not allocation potential of zakat agriculture.

According SIRuSa or *Sistem Informasi Rujukan Statistik* (Referral Information Systems Statistics) of BPS, the value of the poverty gap index can show the cost of alleviating poverty by making aid transfer program for the poor. The smaller value of P1 or poverty gap index, can make potential for poverty alleviation fund which is based on the identification of the target population and poverty targeted program assistance. While the decline in value of P2 at this calculations also show that the average expenditure of the poor people with the distribution of zakat tend to approach the poverty line and also shows that inequality among the poor has narrowed.

4. CONCLUSION

Based on the description above, the writer conclude that:

The degree of inequality in the Beluk people after distributed zakat potential of agriculture has decreased, it could be seen from a variety of measuring devices and indicators of inequality have decreased, the area of Lorenz curve that is narrower, and income receiving proportion at 40% lows are more increasing. This indicates that the distribution of income in the Beluk village increasingly gradually.

Poverty level in Beluk village in this research showed with FGT index decreased in terms of both the number, depth and severity of poverty. In terms of the number or proportion of poor people after the distribution of zakat agricultural potential as indicated by the headcount index value has decreased. The depth and severity of poverty also accompany the reduction in the number of poor people indicated by the poverty gap

and poverty severity index that was decreased.

5. ACKNOWLEDGMENTS

Finally, the researchers would like to thank all the relevant parties who are willing to help and support the researchers in all the difficulties. This research was partially supported by Beluk village Government. We also thank to our collages from Universitas Muhammadiyah Yogyakarta who provided insight and expertise that greatly assisted the research. Thanks also say to people of Beluk village that willing to provide information to researchers. We thank to Mrs Diah Setyawati Dewanti, M.Sc., Ph.D for helping, supporting, comments and guidance that greatly improved the paper. Thanks and highest appreciation we also convey to all parties who cannot be mentioned.

6. REFERENCES

- Abdelbaki, HH (2013). The Impact of Zakat on Poverty and Income Inequality in Bahrain. *Integrative Business & Economics Vol 2* (1).
- Al-Usmani, M. b. (2011). *Contemporary Zakat jurisprudence*. Solo: Al-Qowam.
- Anonymous. (2015). The Impact in Income Inequality and Poverty in Malaysia: A Panel Data Analysis. *Market Forces College of Management Sciences Vol. X*, No. 1.
- Badan Pusat Statistik Kabupaten Pemalang. (2016). *Statistik Daerah Kecaatan belik*. Pemalang: BPS Kabupaten Pemalang.
- Beik, IS (2009). Analysis of Zakat Role in Reducing Poverty: A Case Study of Republika Dhuafa Wallet. *Zakat and Empowering Journal of Thought and Ideas - Vol II*.
- Haughton, J. a. (2009). *Handbook of Poverty and Inequality*. Washington DC: The World Bank.

- HM, HS (2011). Gini Index Ratio Calculation and Analysis of Income Distribution Gap West Tanjung Jabung Year 2006-2010. *Paradigm Economics Journal* Vol.1, 4 October 2011, 90.
- Kalalo, T., SM Engka, D., & Maramis, MT (2016). Analysis of Income Distribution in District Airmadidi Society of North Minahasa Regency. *Journal of Scientific Journal* Volume 16 No. Efficiency 01.
- Laboratory of Management Faculty of Economics and Business, University of Padjadjaran; Bappeda Bandung. (2015). Preparation of the Final Report Gini index Rati Bandung. Final report.
- Makmur, T., Safrida, and Jayanthi, K. (2011). Distribution of Household Income Inequality Rural Community in District Peukan Bada, Aceh Besar district. *Agrisep* Vol. (12) No. 1, 3.
- Mankiw, NG (2014). *Introduction to Microeconomics*. Jakarta: Four Salemba.
- Sugiyarto, Mulyo, JH, & Seleky, RN (2015). Poverty and Household Income Inequality in Bojonegoro. *Agro Economics* Vol. 26 / No. 2, 116.
- World Bank. (2016). *Taking on Inequality*. Washington DC: World Bank Group.