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Sharia-compliant Financing of Infrastructure Development in Rural Area

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Abstract. Infrastructure development can be implemented with a sharia-compliant project financing scheme. *Sharia*-compliant financing has more advantages: it has been proven to endure the global economic crisis because it prohibits the existence of value adding money from money without any effort (*riba*), the imposition of interest on loans, and things that are speculative (uncertain/*gharar*). Islamic financing thus far is also highly potential for growth. By implementing *sharia*-compliant financing, it is expected that the growth of infrastructure development in rural areas can be higher and more sustainable. This research aims to identify the type of infrastructure that is most needed by the community, to examine the potential donations or capital grants from the society that is *sharia*-compliant for infrastructure development, and to determine the person or organization that is most trusted by the community to manage the financing aspect. Research data was obtained using structured-interviewing techniques on residents at the village level and then projected up to the district level. This research demonstrated that the most needed infrastructure by rural residents on location surveyed is that for solid waste treatment. Development of this infrastructure will be financed by donations or *musharaka* scheme and administered by the local community organizations.

1. Introduction

Since Indonesia's independence in 1945, there have been changes in physical infrastructure. Infrastructure that has been built in big cities, especially in the capital, has been implemented properly. However, adequate infrastructure development in large cities has not been followed by good development in rural areas, reflecting that the government as a policy maker should consider equality in development [1]. One of the measures of equality is to stimulate the spirit of rural development by providing infrastructure [2] for rural areas.

In the provision of infrastructure, one of the financing options that can be used is sharia-based since infrastructure does not violate prohibitions in sharia principles [3]. In addition, Islamic finance has several advantages over conventional financing. One of the advantages is the ability to survive in the global economic crisis because interest (usury) and speculative matters (uncertainty/gharar) are prohibited [4], making the financial transactions fairer. Therefore, Islamic finance is thought to have the highest growth in the world and is expected to continue growing [5].

The study of alternative methods in financing, especially for rural infrastructure, is expected to catch up infrastructure development. The purpose of this study is to identify infrastructure needs in rural areas, analyze the types of Islamic financing that are appropriate for this purpose, and determine who can manage said financing option.

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2. Rural Infrastructure Financing

Rural, according to the large Indonesian dictionary [6], is defined as a residential area that is strongly influenced by soil, climate and water conditions as an important condition for the realization of the agrarian life pattern of its population. In addition, a village is defined as a legal community unit that has an original arrangement based on special origin rights [7]. Whereas in the perspective of Law No. 6 of 2014, rural areas are areas that have major agricultural activities, including the management of natural resources with the arrangement of the function of the area as a place of rural settlement, government services, social services, and economic activities. In Cambridge dictionary, the word rural refers to an area that is not in urban or industrial, which is used for farming or being left in its natural condition [8].

In the 2014 Guidelines for Implementation of Rural Infrastructure Development, it is stated that the purpose of developing rural infrastructure is to support the acceleration of poverty reduction and strengthen the implementation of good governance. The program aims to realize increased access for the poor and women, including minorities, to rural basic infrastructure services in order to support the development of village potential based on community empowerment approaches and improved good governance. Therefore, the definition of rural infrastructure used in this study is public facilities in the physical forms needed by people who live in an environment that is still natural or mostly have a livelihood as farmers.

Rural infrastructure financing can use several alternative sources of financing as follows:

1. Utilization of village funds through the State Budget. In Law no. 6 of 2014, villages have the authority to develop their respective regions according to needs, which are funded directly by the State Budget;
2. Regional Revenue and Expenditure Budget. Government Regulation No. 58 of 2005 concerning regional financial management stated that Regional Revenue and Expenditure Budget is the annual financial plan of regional government which is discussed and approved jointly by the regional government and the Regional People's Legislative Assembly, and stipulated in regional regulations.
3. Corporate Social Responsibility (CSR). In Law no. 40 of 2007 concerning limited liability companies, social and environmental responsibility is the commitment of the company to participate in sustainable economic development in order to improve the quality of life and the environment that is beneficial for the company itself, the local community, and society in general. This responsibility can also take the form of infrastructure development [9]. On the other hand, Indonesia has the potential to utilize as much as IDR 12 trillion (approximately USD 923 million in 2018) CSR funds which have not been managed optimally to empower and improve the welfare of the local community [10].
4. Crowd funding. It is a collective effort carried out by people who are connected to collect money together through the internet to finance projects initiated by other people/organizations. These sources of funding make use of small donations from large numbers of people so that they can be accumulated to finance a large project [11]. This financing scheme can be applied to the development of rural infrastructure because it can be benefited from the sympathy of the Indonesian people.

3. Sharia-compliant Financing Concept

Islamic finance is a commercial and financial activity that complies with sharia principles [12]. Sharia itself comes from an Arabic term meaning the way used by a Muslim in all aspects of life. *Riba* is a practice that is forbidden in Islam as stated in the Quran Surah Ali Imran: 130 [13] and Al Baqarah: 276 [14].

“O you who have believed, do not consume usury, doubled and multiplied, but fear Allah that you may be successful.” [Quran Surah Ali ‘Imran: 130] Shahih International Translation.

“Allah destroys interest and gives increase for charities. And Allah does not like every sinning disbeliever.” (Quran Surah Al Baqarah: 276) Shahih International Translation.

The prohibition on the practice of usury is also found in several other scriptures such as the following New Testament:

"And if you lend to those from whom you expect to receive, what credit is that to you? Even sinners lend to sinners, to get back the same amount (34). But love your enemies, and do good, and lend, expecting nothing in return, and your reward will be great, and you will be sons of the Most High, for he is kind to the ungrateful and the evil (35)." (Luke 6: 34-35) English Standard Version [15].

In addition, this prohibition is also found in the Jewish scriptures, the Exodus chapter 22 verse 25 which states:

"If you lend money to any of my people with you who are poor, you shall not be like a moneylender to him, and you shall not exact interest from him. (Exodus 22: 25) English Standard Version (ESV) [16].

There are key principles that follow basic principles of Islamic finance [17], including:

1. All excess debt payments determined at the beginning (interest) are prohibited. In principle, all profits obtained by lenders from borrowers are prohibited. The profits referred here include all indirect profits derived from debt.
2. Share profits and losses. The main principle of Islamic finance is the existence of justice in obtaining benefits and losses. This is different from interest-based banking which forces the borrower to return according to the amount of debt and interest agreed upon at the beginning, regardless of whether the borrower is profitable or making losses.
3. Sharing risk. In conventional finance, all risks are borne by employers; regardless of whether the entrepreneurs benefit or lose. In Islam, this inequality in risk sharing has become an important issue that led to risk sharing between borrowers and lenders. If there is a profit from the borrowed capital, then profit sharing is based on the agreed value at the beginning. If there is a loss, the loss is divided by the proportion of the capital.
4. Focus on productivity. In conventional finance, lending is based on the smooth credit of the borrower. In Islamic principles, banks will only benefit if the funded business is successful so that the bank will focus on the performance and capability of the business.
5. Prohibition to make money from money. In Islam, money is only a medium of exchange. Money alone has no value. Therefore, it is not permissible to get money with money through interest on debts or deposits.
6. There must be no uncertainty. *Gharar* (risk uncertainty, speculation) is prohibited, so all transactions must be free from this element. In transacting, the buyer must know exactly and clearly what goods are traded and their specifications so that the transaction is valid.
7. Only transactions that are allowed by the Sharia are accepted. In the Islamic financial system, it cannot be used to finance projects that are contrary to Islamic law such as liquor factories, nightclubs, and so on.

In addition, agreements are important in Islamic finance. There are four roots of all transaction agreements in Islam including buying and selling, leasing, giving, and loans. Buying and selling is a transaction that involves the transfer of ownership of goods, while rent is a transaction of ownership rights of an item, giving is the transfer of ownership of an item, while a loan is a transfer of usufructuary rights over an item. The basic principles in the application can take various forms such as guarantees, deposits, and endowments. In general, Islamic financing instruments are divided into two types [18]:

1. Instruments that resemble debt
   a. *Murabahah* (Buy-sell): *Murabahah* is a transaction with the structure of selling and buying. This transaction is usually used in a short duration capital financing. The financial institution buys an asset determined by the customer. Then the institution sells it to the customer at a later time with a price higher than the purchase price. In the context of capital, customers usually buy in installments that are easy to trade in commodities such as platinum or copper, and resell them to get cash.
   b. *Ijarah* (rent): *ijarah* contract is rent. This transaction is used to finance purchases from a specific asset, often used in property. In addition, this contract can also be used to finance the acquisition of a corporation. The former financing institution buys an asset and leases the asset to its customers, asking for rental fees. The difference with conventional rental is that the concept of sharia requires the financial provider to bear some costs that are not normally covered by

conventional leasing. The costs borne are maintenance costs, insurance, property taxes (if any). Customers only pay the rental fee as long as they can use the asset.

c. *Salam* (forward purchase): The payment institution pays its customers when an agreement is made to obtain assets at an agreed time. Islamic Sharia requires payment to be made in full at the beginning of the agreement and the time for granting fixed assets.
d. *Istisna* (commissioning): This form of contract is similar to greeting, the difference is that the agreement is agreed upon when the asset is available, while the contract is agreed upon when an asset starts. This contract is often used to finance construction/development projects. The financing provider institution agreed to buy an asset made by another party and committed to a series of financing based on milestones from the project. The financing provider then leases or sells the asset.
e. *Sukuk* (full ownership shares): *Sukuk* represents ownership of a set of assets owned by its maker. The difference with conventional equity lies in the *sukuk* holder receiving the proportion of profit sharing generated by the asset. In addition, Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) requires that *sukuk* holders also obtain losses incurred by these assets.

2. Instruments that resemble Equity
   a. *Mudharabah* (limited cooperation): Financing institutions get money from investors who want to invest in the project. Then the financing institution pays the party who runs the project using the project's profit, and gives the remaining profit to the investor.
   b. *Musyarakah* (public cooperation / cooperation): Usually used to finance long-term projects. The form is similar to *mudharabah*, but financing providers and customers both contribute in the form of cash/other assets to special purpose vehicle. There is a risk sharing based on the proportion of capital but the benefits are divided by agreement.

In addition, Islamic financing for infrastructure development can also be in the form of cash *waqf* [19]. Cash *waqf* is a sum of money that is withheld from the *waqif* (the person who represents) who is dedicated to the welfare of the community. According to the Indonesian Ministry of Religion in 2011, Indonesia cash *waqf* has the potential of up to IDR 20 trillion (approximately USD 1,538 million). In the management of *zakat*, there are three main limitations that must be met [20], namely:

1. It cannot be canceled. Therefore, when the *waqif* has granted his wealth, he cannot take it back. However, the *waqif* can benefit from the benefits generated by the *waqif* funds.
2. It is lasting. As long as the *waqf* is available, the manager must ensure that the funds generated from the *waqf* are used continuously for the needs of Muslims.
3. It is non-transferable. If a *waqif* grants his money, it then becomes a frozen asset that cannot change ownership.

Therefore, cash *waqf* can be used as a rural infrastructure financing instrument because this practice is in accordance with the provisions and limitations of its use.

Other funding sources that can be used to finance the development of rural infrastructure are *zakat*. In addition to its potentially huge amount, *zakat* has a great potential to alleviate poverty. According to Mu'jam Wasith, the word *zakat* comes from “zaka”, which means blessing, growing, clean, and good. In Islam, *zakat* means a certain take from certain assets, according to certain characteristics, to be given to certain groups [21]. According to law No. 23 of 2011 concerning the management of *zakat*, it is a property that must be issued by a Muslim or a business entity to be given to those who are entitled to receive it in accordance with Islamic laws. One of the objectives of *zakat* management is to increase its benefits in improving community welfare and poverty alleviation.

On the other hand, the Minister of Religion Regulation No. 52 of 2014 concerning Requirements and Procedures for the Calculation of Zakat on Mal and Zakat Fitrah and the Utilization of Zakat for Productive Enterprises articles 22 and 23 stated that *zakat* can be utilized for a productive business in the context of assisting the poor and improving people’s quality of life so long as it produces economic added value for the *mustahik* (*zakat* recipients). Therefore, *zakat* can also be used as an alternative source of rural infrastructure financing because it is in accordance with *zakat* management law.

From a management point of view, community actors who manage this must be a figure trusted by the surrounding community. Trust is the willingness of a party to be vulnerable to the actions of another party in the hope that the other party is taking an important action in favor of the party who believes it [22]. In the context of rural infrastructure management, it is important to know whom among the community is approved by others to manage infrastructure financing and to take said important actions. Furthermore, [22] explained there are three factors that influence a person's tendency to trust others, namely:

1. Ability. Ability is a set of skills, competencies, and characteristics that make a party have an influence on a specific domain. In this context, a person can be trusted by the community because they have the managerial capability or the educational skills in managing an infrastructure financing.
2. Benevolence. Kindness is the extent to which people believe that a figure will always do good deeds for their society and put aside their personal ego. In this case, the trusted figure is known to have contributed to the good of the community and is more concerned with the interests of the community much more than his own interests.
3. Integrity. Integrity is defined as a complete unity between action and speech, which gives rise to authority. In this case, a figure with integrity is usually related to his consistency in being fair, honest, and having a good commitment in managing financing.

4. Research Method

In this study, the authors used a quantitative approach. This approach relies heavily on numerical data [23]. It was chosen because the generated data is a survey-based with several close-ended questions, without ruling out the possibility of a few open-ended questions. This research was carried out by conducting structured interviews with the people met in the village. The data were then analyzed further by a series of statistical methods to draw conclusions.

The problems raised in this study were "What infrastructure is needed by rural communities?" (RQ1), "How do we implement Islamic financing in rural infrastructure development projects?" (RQ2), and "Who should manage rural infrastructure financing?" (RQ3).

In answering RQ1, there were questions about infrastructure condition and quality to be answered by the respondents. In addition, a number of secondary data were also used in relation with the condition of infrastructure in Batang District, Central Java, Indonesia. To answer RQ2, there were questions about the willingness to make donations and investments for infrastructure development projects and the nominal. Lastly, to answer RQ3, there were several questions related to indicators of ability to carry out management, indicators that emphasize the public interest, and indicators of integrity in determining who is the most suitable to manage it.

The study was carried out by conducting structured interviews with respondents who were successfully met by surveyors. The researchers sampled five villages in the Subah sub-district which represented Batang's geographical conditions, namely Keborangan which is located close to the Pantura road; Kuripan, which is located on the north coast; Jatisari and Tenggulangharjo in the plain areas; and Menjangan village located in the highlands. There were 83 respondents willing to participate in this research.

5. Results and Discussion

Interview results show 79 out of 83 respondents were willing to participate in infrastructure development. Thus, it can be concluded that almost everyone wants to be involved in their regional development process. However, based on our interview results, it is stated by the respondents that in recent years there has been a decrease in the frequency of community cooperation activities.

Table 1. Infrastructure development priorities

	Weight	Percentage	Valid Percentage	Cumulative Percentage
Road	97	19.4%	19.4%	19.4%
Solid Waste Treatment	81	16.2%	16.2%	35.5%
Electricity	63	12.6%	12.6%	48.1%
Irrigation	50	10.0%	10.0%	58.1%
Health	40	8.0%	8.0%	66.1%
Clean water	39	7.8%	7.8%	73.9%
School	34	6.8%	6.8%	80.6%
Bridge	27	5.4%	5.4%	86.0%
Market	24	4.8%	4.8%	90.8%
Internet Network	17	3.4%	3.4%	94.2%
Cellular Network	15	3.0%	3.0%	97.2%
Water/Sanitation Disposal	12	2.4%	2.4%	99.6%
Village Meeting Hall	1	0.2%	0.2%	99.8%
Landline Network	1	0.2%	0.2%	100.0%
Total	83	100.0	100.0	100.0%

To get priority data on community needs for infrastructure, researchers took three main infrastructure priorities from respondents. These were then multiplied by weighting 3 for the first priority, 2 for the second priority, and 1 for the third priority, and adding up all the points to find out which one has the highest value. The process resulted in road construction (97 points, 19%) as the highest priority, while the second priority was on solid waste treatment infrastructure (81 points, 16%), and the third was electricity infrastructure (63 points, 13%), as seen in Table 1.

Road construction was chosen as the main priority for development because the community still prioritizes infrastructure that makes them comfortable in working and performing their daily activities. As for the second priority, many people do not know the risks of burning garbage; therefore, solid waste treatment was prioritized as second highest. This community prioritizes road infrastructure compared to others because low level of education makes them only see things that can benefit them instantly. In this context, the impacts of road development can be felt directly in the form of easier work mobilization.

On the other hand, our field observations concluded that for the village where we studied, road construction was already adequate. Almost all of the roads, except for a few smaller ones were constructed with asphalt or concrete. Thus, we conclude that the community does not really need to improve the quality of road infrastructure.

The second priority based on the structured interview data is the solid waste treatment infrastructure. It turns out that the majority of the community is processing their waste by burning it. During our time at the location we often saw black smoke caused by burning mounds of garbage on the side of the road. This can cause health problem to the surrounding community. Therefore, we conclude that this community needs more solid waste treatment infrastructure.

Infrastructure is unique in contributing to development [24]. In this case, the provision of basic services can improve people's standard of living and earning potential, and therefore alleviate poverty. It is hoped that the solid waste treatment infrastructure can improve health and open up a new potential income.

In determining the financing scheme for *sharia*-based solid waste treatment infrastructure development, a capital-based scheme was chosen thus this solid waste treatment system can be managed and financed by the community. In addition, a capital-based scheme can also provide additional income capital to the community, hopefully improving the living standards of the Batang district people.

In general, the *musharaka* scheme is similar to the *mudharabah* scheme, in which capital from investors is collected by an institution that will manage the money while the implementing team works on the construction and operate the solid waste treatment facilities. The concept uses the same business entity between capital management institutions and the operational team. Therefore, the operational team must also have a contribution in the provision of capital and the capital manager also has more

responsibility in supervising the construction process and the operations. The profit generated from the waste treatment operations will be divided based on an agreement created at the beginning while the loss will be borne based on the proportion of capital ownership.

Among the two schemes above, the authors prefer to use the *musharaka* scheme because it encourages higher community involvement in managing this fund. Such high involvement is expected to guarantee the sustainability of this project until the end of the maintenance period. The scheme can be seen in Figure 1.

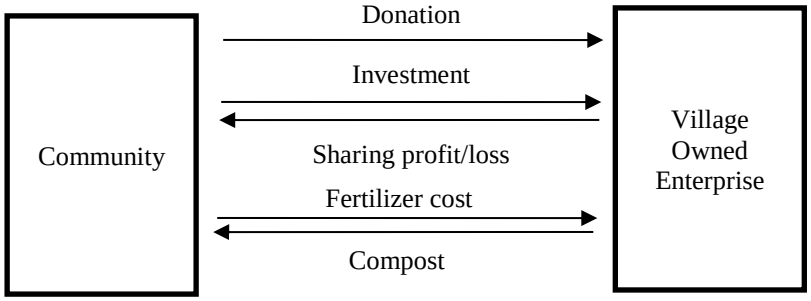


Figure 1. Financing and operational structure scheme

Based on the results of the study, the community has a high level of trust, both trust between communities and trust in their religious leaders as seen in Figure 2.

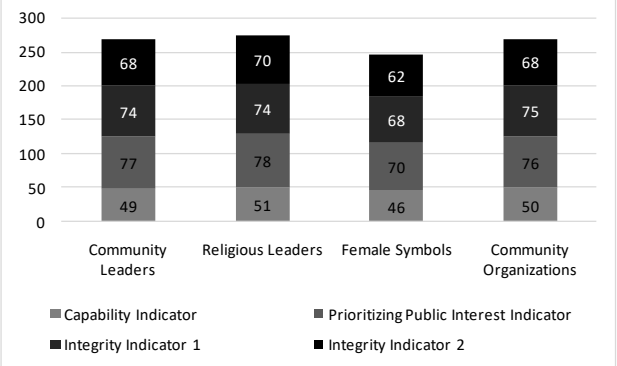


Figure 2. Trust Chart

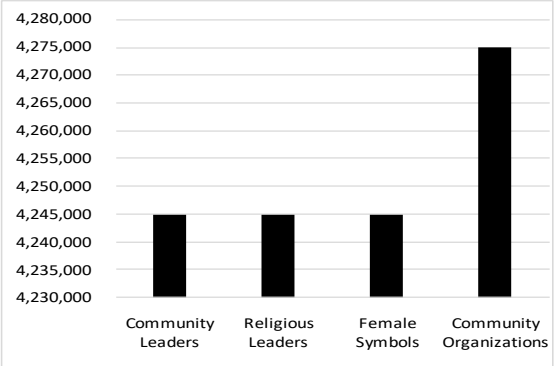


Figure 3. Willingness to donate related to who manages the fund

The number in the chart indicates how much trust people put on every indicator used in this study. From Figure 2 we can conclude that religious leader and community organization have the best trust count compared to public figure and female symbol. On the other hand, in terms of society's willingness to donate in relation with who manages the fund, we can conclude that community organizations encourage the highest level of willingness (Figure 3).

6. Conclusion

There are three problems appointed in this research such as the type of infrastructure needed by Batang communities, the type of Islamic financing implemented in this type of infrastructure financing, and the party that can manage the financing option. Even though the community prioritizes and wants the development of road infrastructure, it actually needs the construction of solid waste treatment most. The financing of this waste treatment infrastructure can apply a donation scheme or *musharaka* scheme, where people who run its operations also contribute to in capital. The financing and operational management can be awarded to the community organizations in the area. In this case, community organizations can be village-owned enterprises.

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