

**ECONOMIC SUSTAINABILITY OF ZAKAT-BASED PRODUCTIVE PROGRAMS :
A CASE STUDY OF HYDROPONIC MELON GREEN HOUSE IN BANYUMAS**

Indi Nikmatul Kamaliah
Universitas Muhammadiyah Purwokerto
indinikmatul8@gmail.com

Makhrus
Universitas Muhammadiyah Purwokerto
makhrus@ump.ac.id

Article History

Received:
19 March 2025
Accepted:
30 May 2025
Published:
30 June 2025

Abstract

One of the distributions of zakat is through productive empowerment that has a long-term impact. The purpose of this study is to describe the implementation, supporting factors, and obstacles of productive zakat through the Hydroponic Melon Green House program. This study uses field research with a descriptive qualitative approach to explore the implementation factors, supporting factors, and obstacles of productive zakat. The subjects of this study are the recipients of the Hydroponic Melon Green House program managed by LAZISMU Banyumas, located in Purwojati Village and Karangtawang Village, Banyumas Regency. This study was conducted over a period of 2 months, from November to December 2024. The data collection techniques used in this study were interviews, observations, and documentation. Data analysis was carried out through data reduction, data presentation, and drawing conclusions. The results of this study show that the implementation of productive zakat through the Hydroponic Melon Green House program has successfully improved the economy and independence of the community. This is due to the fact that the Hydroponic Green House method is not affected by seasons, and its harvests are of high quality with a crunchy texture and sweet fruit. By utilizing zakat for productive activities, the beneficiaries (mustahik) not only become more independent but also have the potential to become zakat payers (muzakki) in the future.

Keywords: Productive zakat, green house, hydroponic

A. INTRODUCTION

Zakat is one of the main instruments in the Islamic economic system that plays an important role in the redistribution of wealth and poverty alleviation. In practice, zakat can be distributed consumptively or productively. Productive zakat is aimed at providing business capital to mustahik so that they can develop their business sustainably, so that they are able to increase their welfare independently (Wasik, 2020). This approach not only helps meet short-term consumption needs, but also creates sustainable economic opportunities for zakat recipients (Nugraha, 2021). Islam is a religion whose teachings pay close attention to human conditions, both socially and economically (Anam & Afriyanti, 2024). Economic empowerment through productive zakat can be done in various forms, such as skills training, providing business capital, to supporting production facilities. Therefore, productive zakat is an important focus in developing the community economy and alleviating poverty effectively.

Amil Zakat, Infaq, and Sadaqah Institution of Muhammadiyah (LAZISMU) Banyumas Muhammadiyah (LAZISMU) Banyumas is an institution under the auspices of Muhammadiyah, which is one of the largest Islamic organizations in Indonesia. LAZISMU Banyumas is active in empowering the community's economy through various productive programs. One of the leading innovations implemented is the Hydroponic Melon *Green House* program which utilizes hydroponic technology for efficient and environmentally friendly melon cultivation. This program aims to increase the economic independence of mustahik by providing capital, training, and ongoing assistance. Through this approach, LAZISMU Banyumas not only distributes zakat, but also contributes to the development of modern agricultural capacity and skills of the local community.

Based on the latest data from the Banyumas National Amil Zakat Agency (BAZNAS), the potential for zakat in Banyumas Regency is 922 billion rupiah, which shows the great opportunity to empower society through productive zakat (Baznas, 2023). The successful experience of LAZISMU Gresik in empowering UMKM through productive zakat is an important reference in developing programs in Banyumas (Ainiyah & Bramayudha, 2021). However, this great potential has not been fully utilized optimally, especially in the development of programs based on modern agricultural technology such as hydroponics.

Although the Hydroponic Melon *Green House* program has shown promising results, its implementation faces several obstacles that need to be overcome to ensure its sustainability and effectiveness. Some of the main challenges include limited human resources who master hydroponic technology, fluctuations in harvest results due to technical and environmental constraints, and limited capital that causes dependence on external support. Most of the previous

literature focuses more on the effectiveness of zakat distribution in general without specifically exploring the mechanisms and challenges of implementing modern agricultural technology in the context of zakat empowerment. By analyzing the Hydroponic Melon *Green House* program, this study is expected to provide a significant scientific contribution in the development of a productive zakat model that is adaptive to the needs of the times and improves the welfare of mustahik in a sustainable manner.

B. LITERATURE REVIEW

1. Sustainability

The term "sustainability" comes from the Latin word *sustinere*, which means "to support" or "to withstand." An object or concept is considered sustainable when it can last, remain stable, or continue effectively over time (Thiele, 2024). In the perspective of zakat empowerment, sustainability is an important indicator to assess the success of productive programs. Zakat programs are not enough to just distribute funds, they must be able to create long-term transformations, such as increased income, economic independence, and even the transition of mustahik status to muzakki. The concept of sustainability in the context of productive zakat involves three main aspects, namely social, economic, and environmental.

The Hydroponic Melon *Green House* Program run by LAZISMU Banyumas represents a productive zakat approach based on sustainability. From an economic perspective, this model allows mustahik to obtain regular income from high-quality melon harvests. From a social perspective, this program actively involves the community through training and the formation of farmer business groups. Meanwhile, from an environmental perspective, the hydroponic method used is considered environmentally friendly because it saves water, does not use excessive pesticides, and does not require a large area of land.

2. Productive Zakat Productive Zakat as an Instrument for Economic Empowerment

Zakat is something that is required by Allah SWT in the form of a portion of wealth to be distributed from its owner to those who are entitled to receive it with certain provisions as well. Zakat has great and noble benefits and wisdom for both the giver of zakat (muzakki) and the recipient (mustahiq) (Hafidhuddin, 2002). Zakat is a unique worship, because apart from containing the meaning of ta'abbudi (servitude) to Allah, it also has a social function. Zakat became obligatory for Muslims in the 2nd year after the Hijrah (Musa, 2020). Productive zakat is zakat that is distributed through a model that allows the mustahik to have a lot of results from the business capital that he receives and his business is sustainable. Productive

zakat can create economic resilience for mustahik through independent business activities that are structured and intensively supervised (Mustika et al., 2024). In this way, the wealth that has been given to the mustahik is not immediately used up due to consumption, but is used as business capital to be developed, so that in the end the mustahik can become a muzakki.

This productive zakat program is in line with DSN MUI Fatwa No. 14 of 2011 which emphasizes that zakat can be used for productive activities with assistance and training whose aim is to empower mustahik to be more economically independent. This fatwa also emphasizes the principle of caution so that zakat funds are used effectively and in accordance with sharia so that the use of zakat funds is in accordance with sharia principles and economically effective. Research conducted by Arwani in 2022 confirmed that productive zakat plays a significant role in increasing the income and economic independence of mustahik, thus encouraging positive social transformation in the community (Arwani et al., 2022).

Community economic empowerment is the process of transferring power or ability from those with power to those with less power, with the main aim of increasing the value and dignity of individuals living in poverty so that they can escape the cycle of poverty and backwardness (Makhrus & Hidayat, 2021). This empowerment is the key to improving the community's economy, which then aims to improve economic prosperity and increase competitiveness in the era of globalization and rapid technological development (Habib, 2021). Community empowerment is aimed at weak community groups who lack the ability or strength to access productive resources, as well as those who receive less attention in the development process (Yusna & Saifuddin, 2024). Therefore, productive zakat does not only act as a provider of capital, but also as a means of empowerment that must be able to adapt to the development of the times and technological needs so that mustahik are not left behind in modern economic competition.

However, there is still criticism that some productive zakat programs are less successful in achieving empowerment goals due to limited human resources, lack of innovation, and lack of integration with modern technology and markets. Several studies show that without intensive training support and adequate access to technology, business capital from productive zakat often fails to become a sustainable business. Thus, it is important for zakat institutions to develop an empowerment model that not only provides capital, but also integrates entrepreneurship education, modern agricultural technology, and strategic market access so that empowerment through productive zakat can be effective and have a broad impact.

3. Hydroponic and *Green House* Technology in the Context of Modern Agriculture

A *green house* is a structure where various types of plants are grown, with most greenhouses having a roof or walls made of UV plastic that allows sunlight to enter. In many villages, green houses have been used to inspire people, especially young people, to care more about the environment. In addition, greenhouses can also be a means to start a better life for the environment. It is hoped that the community and youth will use it as a contextual educational medium through practices in the green house. The long-term goal of this *green house* is to educate them about agriculture, with the hope of increasing food security (Hadi & Mariana, 2022).

A *green house* is a type of building that is similar to a mini cabin, which functions to provide protection for plants from extreme, unpredictable weather and also protects them from dangerous chemicals in the surrounding area (Naufal, 2022). Green houses provide a controlled environment so that plants are protected from extreme weather changes and pest attacks, allowing for more consistent, high-quality production.

Hydroponics literally comes from the word "*hydro*" which means water, and "*ponic*" which means work. Hydroponics in general is an agricultural cultivation system that uses water mixed with nutrient solution as a planting medium, without using soil. Hydroponic cultivation is generally carried out in a greenhouse to support maximum plant growth and protect plants from external factors such as rain, pests, disease, weather and other factors (Waluyo et al., 2021). Hydroponics, by definition, is a method of growing plants in a water-based nutrient-rich solution, the hydroponic method does not use soil. Hydroponic methods allow plants to grow with much less water use than conventional farming, while reducing the need for large areas of land.

Hydroponics is an efficient agricultural solution and can be adopted by rural communities with simple training (Ramadhani et al., 2025). Hydroponic and greenhouse technology are agricultural innovations that are very efficient and environmentally friendly, especially when faced with limited land and natural resources. This advantage is particularly relevant in areas with increasing land and resource pressures, such as many areas in Indonesia. Thus, this technology not only supports agricultural productivity but also contributes to environmental sustainability through reduced water and pesticide use.

The use of hydroponic technology in productive zakat programs opens up opportunities for more effective and innovative optimization of zakat capital. Zakat capital

given to mustahik can be used not only as ordinary business capital, but as an investment in modern agricultural technology that increases productivity and the quality of the harvest. This approach combines the spiritual value of zakat as a social obligation and form of worship, with technological advances that address today's economic and environmental challenges. This integration creates a holistic empowerment model, where zakat is not only a fund for assistance but also a means of capacity development through technology, training, and mentoring. This model strengthens the economic independence of mustahik while increasing their awareness and technological capacity, so that the productive zakat program can run sustainably and have a broad impact on the economic development of the community.

4. Comparison *with other productive zakat models*

Various productive zakat models have been developed by zakat institutions as an effort to empower the economy of mustahik. One model that has been quite successfully implemented is the Pekanbaru Makmur Program run by BAZNAS Pekanbaru City (Firlina & Afriyanti, 2024). This study shows that the implementation of productive zakat in the program is effective in empowering the UMKM economy through the provision of business capital and entrepreneurship training. In addition, research on the development of MSMEs by LAZISMU Pamekasan also stated that the productive zakat program implemented was effective in terms of its implementation and distribution (Hasyim & Wahyudi, 2024).

In addition, research on the development of UMKM by LAZISMU Pamekasan also stated that the productive zakat program implemented was effective in terms of its implementation and distribution. This is caused by a number of factors, both internal and external. Among them, the lack of knowledge about business management and digital marketing among mustahik, which hinders the development of their businesses. In addition, the difficulty in inviting mustahik to collaborate and be open to guidance provided by BAZNAS is also an obstacle in optimizing this program. This is different from the Hydroponic Melon *Green House* Program implemented by LAZISMU Banyumas, which uses productive zakat to empower communities through modern agricultural technology.

This program aims to increase the economic independence of mustahik by managing melon farming businesses using a hydroponic system in an efficient greenhouse. Sustainability is easier to achieve in this program because crops can be produced throughout the year regardless of the season, while minimizing the use of water and pesticides. Meanwhile, although the Pekanbaru Makmur Program has succeeded in providing business capital, the development of managerial capacity and digital marketing are still the main obstacles faced by

mustahik. This program focuses more on providing limited funding and training, which can be hampered if not supported by good management and adequate marketing capabilities. Therefore, even though there is provision of capital, the potential for business sustainability is often hampered by the inability of the mustahik to manage their business well.

Overall, although the Pekanbaru Makmur Program has a similar goal in empowering the mustahik economy, its approach is more limited to providing capital and training without considering broader business sustainability, such as that carried out in the Hydroponic Melon *Green House* program, which places more emphasis on the use of sustainable agricultural technology and long-term empowerment.

C. RESEARCH METHODOLOGY

The type of research used is field research with a descriptive qualitative approach. Qualitative research is a research method that focuses on certain phenomena with an approach that produces descriptive analysis, in the form of oral sentences from the research object (Febrianti & Pulungan, 2021). This research was conducted at the Hydroponic Melon *Green House* located in Purwojati Village, Purwojati District, Banyumas Regency, and the Hydroponic Melon *Green House* in Karangtawang Village, Wangon District, Banyumas Regency, both of which are fostered by LAZISMU Banyumas as a productive zakat program.

The selection of informants was done by selecting informants who were considered to have the most understanding and involvement in the Hydroponic Melon *Green House* program in Banyumas. The number of informants was 3 people, namely the manager of the Hydroponic Melon *Green House* Muhammadiyah Purwojati youth, the manager of the Hydroponic Melon *Green House* Karangtawang, and the manager of productive zakat LAZISMU Banyumas. Criteria for selecting informants include level of involvement, knowledge of the program, and involvement of various parties in program implementation.

In this study, the data sources used consist of primary and secondary data. Primary data is data obtained or collected directly by researchers from their data sources (Fadilla & Wulandari, 2023). Secondary data is additional data obtained from books and journals according to the topic being studied. The data collection techniques used in this study are through interviews, observation and documentation. The observations conducted were participatory observations, where the researcher was present and directly observed the program implementation process, participant interactions, and management of the hydroponic system. The types of documents analyzed

included program activity reports, mentoring notes, visual documentation (photos and videos), and administrative documents for both programs.

Data analysis was carried out through the stages of data reduction, data presentation, and drawing conclusions. To maintain data validity, researchers used triangulation of data sources by comparing information from interviews, observations, and documentation. In addition, member checking was conducted by confirming the interview results and findings to the informant to ensure the accuracy and authenticity of the data. An audit trail was also implemented by documenting the entire process of data collection and analysis systematically.

D. RESULT AND DISCUSSION

LAZISMU Banyumas is a district-level non-profit institution that serves in community empowerment through the productive use of zakat, infak, waqf and other religious funds from both individuals and institutions. LAZISMU Banyumas has several programs in various fields, namely : Education, health, da'wah, social humanity, and economy. In the economic field, LAZISMU Banyumas has a superior program, namely productive zakat empowerment based on Hydroponic Melon *Green House*, which is a program directed at encouraging economic independence, increasing income, and welfare, as well as the spirit of entrepreneurship through economic activities and the establishment of halal and empowering businesses (Lazismu, 2024).

According to Asnaini, zakat has a very broad meaning covering religious, spiritual moral, economic, and socio-political aspects. The religious and spiritual moral dimensions reflect an attitude of self-serving to Allah by carrying out His commands and obligations. While social interaction is a reflection of values in the socio-economic aspect. The social aspect describes the values of goodness that apply to individuals and society as a whole, while the economic aspect focuses on the circulation of wealth in society so that it is not concentrated only in certain groups (Asnaini, 2008).

By its nature, zakat is both consumptive and productive. Productive zakat can be relied on as a mechanism for distributing income and wealth by providing convenience for the poor to obtain business capital (Arwani et al., 2022). Productive zakat is the distribution of zakat that can enable mustahiq to develop their skills and have a long-term effect on the zakat assets that they have managed (Tyas, 2024).

LAZISMU in Banyumas, there is the utilization of productive zakat through the Hydroponic Melon *Green House* program. This program is one of the economic empowerment programs, namely a program that is directed to encourage independence and increase income and welfare

and entrepreneurial spirit through economic activities and the formation of halal and empowering businesses. This program has been running in 2 places, namely the Hydroponic Melon *Green House* of Muhammadiyah Purwojati Youth and the Hydroponic Melon *Green House* of KL Al-Ikhlash Karangtawang.

1. Implementation of Productive Zakat on Hydroponic Melon *Green House*

The first Hydroponic Melon *Green House* is in Purwojati, this program is managed by Muhammadiyah Purwojati Youth since July 2023. The construction of the *Green House* was supported by Rp 32,000,000, which came from member contributions of Rp 12,000,000 and capital from LAZISMU Banyumas of Rp 20,000,000. Hydroponic Melon *Green House* of Muhammadiyah Youth Purwojati has a capacity of 296 trees with the type of melon Golden Aroma. The focus of this program is to improve the economic independence of the community and internal institutions of Muhammadiyah Purwojati Youth.

The stages that Muhammadiyah Purwojati Youth went through in the process of making this program began with the process of identifying local potential and needs. Muhammadiyah Purwojati youth realized that their region had a great opportunity for hydroponic melon cultivation. By utilizing local resources and basic skills in agriculture, they are confident that the program can create sustainable economic impact. This identification is done to ensure that *Green House* management is able to provide real benefits to the surrounding community. After that, they developed a program proposal as a step in careful planning. The proposal contains a plan of activities, budget requirements, and the main objectives of the program which focuses on economic empowerment. With this proposal, Muhammadiyah Purwojati Youth applied for funding to LAZISMU Banyumas. In the application process, they also explain the potential success of the program as well as the expected benefits for the surrounding community and internal institutions.

The second Hydroponic Melon *Green House* is in Karangtawang Wangon. This program has been managed by the congregation of Al-Ikhlash Mosque since January 2024. The initial capital for making this Hydroponic Melon *Green House* is Rp 48,000,000, this capital comes from goat farming funds of Rp 25,000,000 where goat farming is also one of the empowerment programs in KL Al-Ikhlash Karangtawang that has been running before, as well as additional capital of Rp 23,000,000 from LAZISMU Banyumas. KL Al-Ikhlash Karangtawang Hydroponic Melon *Green House* has a capacity of 540 trees with the type of Golden Aroma melon. The focus of this program is empowerment to improve the community's economy, as well as to educate the younger generation.

The implementation of the Hydroponic Melon *Green House* program at KL Al-Ikhlas Karangtawang begins with identifying needs and preparing a proposal by the congregation of the Al-Ikhlas Mosque. The congregation designed a proposal that included details of activities, budget, and the main objective of the program, which was community economic empowerment through hydroponic melon cultivation. In this proposal, the congregation emphasizes the need for funding support from LAZISMU Banyumas to realize the construction of the *Green House*. The preparation of this proposal is done systematically to ensure that the program plan is well structured and worthy of support. After the proposal is approved by LAZISMU Banyumas, the next step is to establish partnerships with third parties. In this case, the construction of the *Green House* is entirely left to the contractor partners recommended by LAZISMU. This partner is responsible for the entire development process, from procurement of facilities, installation of the hydroponic system, to ensuring the *Green House* is ready for use in the first harvest.

Fatwa DSN MUI No. 14 T of 2011 concerning productive utilization of zakat stipulates that zakat funds can be channeled in the form of business capital or productive facilities for mustahik zakat who are capable of doing business. The goal is to empower mustahik to be more economically independent. This fatwa also requires assistance in the form of training and coaching for mustahik and prioritizes the principle of prudence so that zakat funds are used effectively and in accordance with Sharia. The utilization of productive zakat managed by LAZISMU Banyumas through the Hydroponic Melon *Green House* Program of Muhammadiyah Youth Purwojati and Hydroponic Melon *Green House* KL Al-Ikhlas Karangtawang is in accordance with Fatwa DSN MUI No. 14 of 2011, which is as follows:

a. Provision of business capital

Business capital is one of the aspects that must exist in entrepreneurship in addition to other aspects that are no less important, namely labor expertise, technology, economics, and organization or legality. Business capital has a very important role, this is because business capital is the life of a business activity that will or has been carried out (Bambang Riono et al., 2023).

The provision of business capital in this program has been carried out by LAZISMU Banyumas. In the productive zakat empowerment program Hydroponic Melon *Green House* Muhammadiyah Purwojati Youth, has spent Rp 32.000.000 for the construction of Hydroponic Melon *Green House*. In this case, LAZISMU Banyumas provided business capital of Rp 20.000.000 and the shortfall was raised funds of Rp 1000.000 from 12 managers of Hydroponic Melon *Green House*, namely Muhammadiyah

Purwojati Youth. Thus, the total funds for the construction of the *Green House* amounted to Rp 32.000.000.

In the productive zakat empowerment program Hydroponic Melon *Green House* KL Al-Ikhlas Karangtawang, has spent funds of Rp 48.000.000. In this case, LAZISMU Banyumas has also provided business capital of Rp 23.000000 while the shortage for the construction of the Hydroponic Melon *Green House* has been prepared in the amount of Rp 25.000.000 by KL Al-Ikhlas Karangtawang so that the total funds for making the *Green House* are Rp 48.000.000. This fund comes from the empowerment results in the form of catfish and goats, this program already existed before the productive zakat empowerment program through this Hydroponic Melon *Green House* (Fauzi & Nasution, 2025).

b. Mentoring and training

In addition to providing capital, training covers various aspects, such as business management, digital marketing, branding strategies, and financial management (Zen, 2025). Mentoring and training are essential activities for human resource development, serving as an educational process conducted over a relatively short time frame. These activities utilize structured and organized methods and procedures, enabling trainees to acquire technical knowledge and expertise for specific objectives (Tamsuri, 2022). In this program, LAZISMU Banyumas has provided assistance and training. Effective empowerment should include structured training, access to capital, and ongoing mentoring to ensure sustainable community-based agriculture (Suminah et al., 2023). In this case, LAZISMU Banyumas recommends a third party as a partner and mentor, namely Mr. Yusuf who has attended training at Gadjah Mada University, Mr. Yusuf is the principal of SD Muhammadiyah Gentawangu, Mr. Yusuf is also a member of Muhammadiyah, so in the process of making the Hydroponic Melon *Green House* Muhammadiyah Purwojati Youth, accompanied directly by him.

The mentoring and training in Purwojati and Karangtawang was carried out well until one harvest. This training covers the preparation of planting media, nutrition, and *Green House* management. After undergoing one harvest cycle with assistance, the managers have successfully mastered the hydroponic method and are ready to manage the *Green House* independently. Hydroponic systems are implemented using efficient methods, such as applying nutrients to meet the needs of the plants and strictly controlling the growing environment. The system is designed to ensure that the melons grown are of high

quality, both in terms of flavor and texture, so as to meet market demand while providing significant economic benefits to local communities.

As for the KL Al-Ikhlas Karangtawang Hydroponic Melon *Green House* program, the form of assistance and training is slightly different. LAZISMU Banyumas provides strategic direction to KL Al-Ikhlas Karangtawang, namely to cooperate with third parties, namely the owner or contractor partner. This contractor partner is fully responsible for the construction of the *Green House*, seed procurement, and all facilities needed for the program. With this system, KL Karangtawang only needs to receive the final result in the form of a *Green House* that is ready for use without having to be directly involved in the construction process. In addition, some of the Al-Ikhlas Karangtawang congregation also participated in training by being interned in Purwojati, because it was already running for this program. The form of assistance from LAZISMU Banyumas is also in the form of monitoring of reports made by KL Al-Ikhlas Karangtawang every harvest.

In Bukhari's hadith number 1483 which means "On what is watered by the sky (rain) and springs is a tenth, and on what is nadhah (personal expenses) is half of a tenth" (Al-Bukhari, 1993). This hadith explains that if agricultural produce is produced from rain or spring water, the zakah is 10%, but if private water is used (such as irrigation that does not depend on rain or natural springs), the zakah is 5%.

In the context of the Hydroponic Melon *Green House* program in Purwojati and Karangtawang, the farming system used nutrient-treated water (hydroponic solution) instead of rainwater or natural spring water. The water used in the hydroponic method comes entirely from managed and artificial irrigation that is controlled for the needs of the plants. Therefore, in accordance with the explanation in the hadith, the zakat issued by these two *Green House* programs is 5%, because the agriculture carried out does not use natural waters, but uses irrigation systems and water that is privately managed in the *Green House*. Thus, the 5% zakaah on the harvest of hydroponic melons reflects the application of the principle in the hadith about zakaah on agriculture that uses water other than rain or natural springs.

Harvest	<i>Green house</i> Melon Purwojati	Zakah 5%	<i>Green house</i> Melon Karangtawang	Zakah 5%
Panen 1	10.185.000	509.250	22.821.000	1.141.050
Panen 2	8.088.000	404.400	18.414.500	920.725
Panen 3	11.410.000	570.500	6.253.000	312.650
Panen 4	8.500.000	425.000	24.000.000	1.200.000
Panen 5	6.850.000	342.000	-	-
Total	45.033.000		71.488.500	

Source: Report of Muhammadiyah Purwojati Youth and KL Al-Ikhlas Karangtawang

Based on the data in the table above, the income of Purwojati Melon *Green House* is smaller than Karangtawang. This is due to the capacity of trees in Purwojati which can only accommodate 296 trees, while Karangtawang has a capacity of up to 540 trees, so the potential yield is greater. According to an interview with Mr. Anjar, LAZISMU Banyumas administrator, the *Green House* used in this program has an operational period of about 5 years. In one year, the hydroponic system in this *Green House* allows for up to three harvests. Melon golden aroma is sold at Rp 35.000/kg. Based on the recorded harvests, the program has succeeded in generating income that exceeded the initial capital within one year, although some harvests experienced a decrease in yield due to various constraints.

In this productive zakat empowerment program through the Hydroponic Melon *Green House*, Muhammadiyah Purwojati Youth and KL Al-Ikhlas Karangtawang pay agricultural zakat from melon yields to LAZISMU Banyumas by 5% every harvest, which will later be distributed to people in need, namely mustahik zakat. In KL Al-Ikhlas Karangtawang itself, before this program existed there was also a program to distribute zakat, infaq and alms funds collected at KL Al-Ikhlas Karangtawang. Hal ini sesuai dengan Qur'an surat At-Taubah ayat 60 yang artinya "Zakah expenditures are only for the poor and for the needy and for those employed to collect (zakah) and for bringing hearts together (for Islam) and for freeing captives (or slaves) and for those in debt and for the cause of Allah and for the (stranded) traveler - an obligation (imposed) by Allah. And Allah is Knowing and Wise".

Community empowerment has the main objective of improving the community's economy. This is done to improve the welfare of the community in the economy (Rochman & Subarkah, 2024). The Hydroponic Melon *Green House* Program is a tangible form of community empowerment efforts aimed at improving economic welfare. With

this program, Muhammadiyah Purwojati Youth has managed to optimize the harvest from the Hydroponic Melon *Green House* to create significant income. This success has a direct impact on the independence of the Muhammadiyah Purwojati Youth organization. With the income they generate, institutions are no longer dependent on external funds to run their activities. The proceeds can be used to support branch programs and other youth activities. This shows that the *Green House* program has created a sustainable economic cycle while strengthening their institutions.

The KL Al-Ikhlas Karangtawang Hydroponic Melon *Green House* Program has also shown its success. The success of KL Al-Ikhlas Karangtawang in developing three *Green Houses* shows the positive impact of productive zakat-based empowerment strategies. With this model, communities not only gain direct economic benefits from the harvest but also acquire skills in hydroponic melon cultivation, opening up new economic opportunities for them. In this context, the success of KL Al-Ikhlas Karangtawang is an example of how productive zakat-based empowerment can be carried out well, giving a real impact on improving the community's economy, while supporting the big vision of empowerment to create a more prosperous society. This is in line with Aeni's research (2025) where productive zakat is able to change the role of mustahik from passive recipients to active economic actors through the provision of capital, training, and intensive assistance, which has an impact on improving the quality of life and overall welfare (Aeni, 2025).

This research shows that the hydroponic method applied in the Hydroponic Melon *Green House* program in Purwojati and Karangtawang not only succeeded in increasing plant productivity but also supported the economic independence of the community. Hydroponics, as a soil-less farming technology, has various advantages, such as efficient use of water and nutrients, protection of plants from extreme weather and pests, and improved quality and quantity of crops. The success of this program is in line with the findings of Sowmya et al in 2022 under the title "Hydroponics: An Intensified Agriculture Practice to Improve Food Production" which states that hydroponics is an efficient method in overcoming limited land and water resources. In a hydroponic system, plants get proper nutrition with accurate pH and acidity control, thereby improving the quality and quantity of the crop. This advantage is also reflected in the harvest in Purwojati and Karangtawang, where the melons produced have a sweet taste and crunchy texture with a weight of 1.7-2 kg/ fruit.

Hydroponics is a rapidly growing sector in agriculture, offering a promising future for food production. As many countries, both developing and developed, seek to produce food on limited land, hydroponics presents a viable solution. Tokyo has initiated hydroponic rice cultivation to help feed its population. This technique has also proven successful in various nations and holds the potential to nourish millions in regions where water and arable land are scarce, such as in parts of Africa and Asia. In the European Union, hydroponics is commonly used to produce vegetables, including eggplants, peppers, melons, strawberries, and herbs. In the United States, high-quality garden vegetables like tomatoes, cucumbers, and particularly lettuce are grown extensively using this method (Sathyanarayana et al., 2022).

In this context, the productive zakat empowerment program based on Hydroponic Melon *Green House* managed by LAZISMU Banyumas not only utilizes the advantages of hydroponics in land and air efficiency, but also integrates it as a means of productive zakat-based economic empowerment. The advantage of the Hydroponic Melon *Green House* lies in its ability to produce high-quality crops in a relatively short time, with full control over the growing environment, thus reducing the risk of failure due to weather.

In the research of Sowmya et al in 2022 stated that the quality and quantity of crops with hydroponic methods produce extraordinary products compared to traditional soil-based agriculture has greatly attracted the attention of farmers and markets globally, and this method is growing rapidly in India (Sathyanarayana et al., 2022). This is very relevant to the success of the Hydroponic Melon *Green House* program in Purwojati and Karangtawang. Every harvest, the melons always run out in less than 3 days. The melon harvest, which ran out within three days, reflects the high market demand for premium quality products such as Golden Aroma melons, which are still scarce in the market.

Based on the discussion above, this research proves that the productive zakat empowerment program through the Hydroponic Melon *Green House* in Purwojati and Karangtawang has succeeded in increasing the economic independence of the community through premium quality melon crops. With the support of hydroponic methods and assistance from LAZISMU Banyumas, this program is able to create sustainable economic benefits, and empower the community. This success shows that the program not only supports community welfare but is also a model of empowerment that can be applied in other areas.

2. Inhibiting and Supporting Factors of Productive Zakat Program for Hydroponic Melon Green House

a. Hydroponic Melon *Green House* of Muhammadiyah Youth Purwojati

The success of the productive zakat program is largely determined by a consistent monitoring and evaluation system (HRP, 2024). The success of Purwojati Muhammadiyah Youth Hydroponic Melon *Green House* program is supported by various factors. One of the main factors is the initiative and active participation of the Muhammadiyah Youth community. A total of 12 Muhammadiyah Purwojati youth independently raised the initial funds of Rp12,000,000 through a joint venture system. This shows a strong spirit of collaboration among community members.

Great support was also provided by LAZISMU Banyumas, which added capital of Rp20,000,000 to realize the construction of the *Green House*. In addition, LAZISMU recommended a mentor, Mr. Yusuf, who has experience and special training in hydroponics from UGM. The initial training provided by Mr. Yusuf greatly helped Muhammadiyah Purwojati Youth to understand hydroponic melon cultivation techniques, so that they were able to manage the *Green House* independently after the initial mentoring period.

The Hydroponic Melon *Green House* program run by Muhammadiyah Purwojati Youth faces various challenges in its implementation. One of the main obstacles faced is the delay in seed delivery, especially when the demand for Golden Aroma melons is high. This had an impact on the late harvest schedule, considering that the seed sowing process takes about 10 days. As a result, the entire program was disrupted.

In addition, sterilization of the growing medium is very important to ensure that the seeds are free from viruses. When seeds are contaminated, growing media such as cocobits must be sterilized to prevent the spread of disease, which can affect plant health. Raw water quality is also an important factor in the success of this program. The air used must have an acidity level (pH) between 6-7. If the pH of the air exceeds this limit, the high heavy metal content can trigger corrosion in the hydroponic installation and harm the plants. Therefore, monitoring and adjusting the pH of the air is a challenge that must be continuously considered.

The environment around the *Green House* also has a significant impact. The presence of shady trees around the location prevents optimal sunlight from entering. This lack of sunlight inhibits the photosynthesis process, resulting in slow plant growth. As a result, the harvesting period often has to be split into two stages about a week apart, potentially

compromising production efficiency. In addition, plant diseases pose another major challenge. Diseases such as leaf curl can stunt plant growth, while Fusarium wilt poses the biggest threat. If the plants are infected with Fusarium wilt, the only solution is to cut down the infected plants to prevent the spread of the disease to other plants.

b. Hydroponic Melon *Green House* KL Al-Ikhlas Karangtawang

The main supporting factor for the success of the Al-Ikhlas Karangtawang Hydroponic Melon *Green House* is the active role of the Al-Ikhlas Mosque congregation who manage this program. A total of 15 members of the congregation worked together to support the program, including diverting some funds from the goat farming program that had been running previously. The initial funds raised amounted to Rp 25.000.000 and then complemented by LAZISMU Banyumas support of Rp 23.000.000, so that the total capital available reached Rp 48.000.000.

Partnership with a third party recommended by LAZISMU Banyumas is also one of the keys to success. This partner is fully responsible for the construction of the *Green House* until the first harvest assistance stage, so that the congregation can focus more on managing the harvest. Before starting, some members of the congregation had participated in an internship program at Muhammadiyah Youth Purwojati to learn first-hand the practice of hydroponic melon cultivation. This learning process helped them implement the right techniques in managing the *Green House* in Karangtawang.

The Al-Ikhlas Karangtawang Hydroponic Melon *Green House* Program faced several significant obstacles, especially during the 3rd harvest period. During this period, the yield experienced a drastic decline, from previously reaching Rp 18.000.000 to only Rp 8.000.000 this decline was caused by several obstacles faced during the harvest period.

The first inhibiting factor is when the Al-Ikhlas Karangtawang congregation is busy with various company activities. When the *Green House* was left for outside activities, there was a power outage that caused the flow of nutrient water to stop. This has a direct impact on the disruption of melon plant growth which is highly dependent on the continuous flow of nutrients. The second inhibiting factor is the lack of maximum sunlight entering the *Green House*. This is caused by the presence of shady trees that cover the roof of the *Green House*, so that the photosynthesis process of plants is hampered. Non-optimal photosynthesis certainly affects the quality and quantity of the melon harvest.

The Hydroponic Melon *Green House* Program run by LAZISMU Banyumas has shown significant success in empowering the economy of mustahik, especially in terms of increasing

income and modern agricultural technology skills. When compared to the productive zakat program based on UMKM carried out by LAZISMU Gresik (Ainiyah & Bramayudha, 2021). and the productive zakat program for economic empowerment through the Prosperous Pekanbaru Program at the Pekanbaru City BAZNAS (Firlina & Afriyanti, 2024). This productive zakat program through hydroponics has advantages in terms of efficient use of land and resources as well as high-quality harvests, which have the potential to open wider market access. However, the uniqueness of this technology also brings its own challenges that have not fully emerged in other empowerment models.

In terms of challenges, mustahik face various technical and social obstacles in running a hydroponic business. Technical obstacles such as limited understanding of hydroponic techniques, the risk of irrigation system failure, and fluctuations in harvest results due to environmental factors are the main obstacles that require intensive assistance (Waluyo et al., 2021). Strengthening the monitoring and evaluation system and increasing the number of competent business assistants is very necessary to ensure that productive zakat funds are used according to the objectives of empowering the mustahik economy (Setiyaningtiyas et al., 2025). Socially, initial resistance to new technologies and the need for cultural adaptation also affect the success of the program. Some mustahik also experience difficulties in business management and product marketing, which hinders maximum income growth. Opinions from zakat managers and program assistants emphasized the importance of ongoing training and active community involvement so that these obstacles can be minimized.

Regarding long-term sustainability, this program has succeeded in building a strong foundation for the transformation of mustahik into economically independent muzakki, in accordance with the vision of productive zakat (Huda et al., 2015). The results of increased income and hydroponic technical skills obtained by mustahik show their readiness to manage the business independently without relying entirely on mentoring. Community leaders and zakat managers appreciate the success of the program in creating sustainable economic independence, while encouraging the spirit of entrepreneurship and innovation among mustahik. The holistic approach that combines entrepreneurship training, technical support, and market access continues to be strengthened to ensure stable and quality business growth.

With the success that has been achieved, the Hydroponic Melon *Green House* program has become an effective and inspiring productive zakat empowerment model. This program proves that the integration of modern technology with the principles of productive zakat can produce significant social and economic impacts, while strengthening food security and

community independence. The sustainability of the program is supported by the commitment of stakeholders, active community participation, and adaptation of technology that is appropriate to local conditions. Therefore, this model is worthy of being developed and replicated as an innovative and sustainable zakat-based economic empowerment solution in other regions.

E. CONCLUSION

The implementation of productive zakat program through Hydroponic Melon Green House in two locations, Purwojati and Karangtawang, has successfully increased the economic independence of the community. The success of this program is supported by several key factors, such as careful planning, comprehensive training, and assistance by experienced mentors. The hydroponic technology used in this program enables optimal land utilization and produces high-quality products, such as melons with sweet taste and crunchy texture, which are highly demanded by the market. Community support, both in the form of capital contributions and the spirit of collaboration, is also an important element in the success of this program.

Overall, the program succeeded in achieving the main objectives of productive zakat, namely alleviating poverty and encouraging the independence of mustahik. By utilizing zakat for productive activities, mustahiks not only become more independent but also have the potential to become muzakki in the future. This program reflects how zakat can be managed strategically to create significant social and economic impact. The success of this Hydroponic Melon Green House program can be a model of zakat-based empowerment that can be applied in other areas to support community welfare.

References

- Aeni, N. (2025). Zakat Produktif dan Peningkatan Kesejahteraan Mustahik: Studi Pemberdayaan Ekonomi Berbasis Syariah. *Jurnal Ilmiah Manajemen, Ekonomi Dan Akuntansi*, 5(2), 1–12.
- Ainiyah, A. R., & Bramayudha, A. (2021). Kegiatan Pendistribusian Zakat Produktif Pemberdayaan UMKM di LAZIZMU Kabupaten Gresik. *Journal of Islamic Management*, 1(2), 91–108. <https://doi.org/10.15642/jim.v1i2.553>
- Al-Bukhari. (1993). *Sabih Al-Bukhari*.
- Anam, A. M., & Afriyanti, F. (2024). Pengelolaan Zakat Produktif Baznas Kabupaten Bandung Barat Melalui Program Zmart Dalam Meningkatkan Kesejahteraan Ekonomi Masyarakat Di Kecamatan Cipatat. *Jurnal Bina Ummat: Membina Dan Membentengi Ummat*, 7(1), 101–120.

- Arwani, A., Salenus, S., Rahayu, N. W. I., Faiz, M. F., Cakranegara, P. A., Aziz, A., & Andiyan, A. (2022). the Development of Economic Potential of People in Pandemic Through Earning Zakat Distribution. *International Journal of Professional Business Review*, 7(2), 26668. <https://doi.org/10.26668/businessreview/2022.v7i2.414>
- Asnaini. (2008). *Zakat Produktif Dalam Perspektif Hukum Islam*.
- Bambang Riono, S., Nurizki, M., Dumadi, D., Syaifulloh, M., & Sucipto, H. (2023). Pengaruh Modal Usaha dan Strategi Pemasaran terhadap Volume Penjualan pada Pelaku UMKM Mitra Mandiri Brebes. *Jurnal Ilmiah Ecobuss*, 11(1), 1–8. <https://doi.org/10.51747/ecobuss.v11i1.1129>
- Baznas. (2023). *Baznas*. <https://baznas.go.id/>
- Fadilla, A. R., & Wulandari, P. A. (2023). Literature Review Analisis Data Kualitatif: Tahap Pengumpulan Data. *Mitita Jurnal Penelitian*, 1(No 3), 34–46.
- Fauzi, F., & Nasution, Y. S. J. (2025). Zakat Produktif: Tinjauan Literatur dan Implikasinya Terhadap Pembangunan Ekonomi di Indonesia: Productive Zakat: Literature Review and Implications for Economic Development in Indonesia. *TIJARAH: Jurnal Ekonomi, Manajemen, Dan Bisnis Syariah*, 2(1), 19–28.
- Febrianti, Y. F., & Pulungan, R. (2021). *Penggunaan Bahasa Gaul Terhadap Eksistensi Bahasa Indonesia Pada Masyarakat*.
- Firlina, S., & Afriyanti, D. (2024). *Implementasi Zakat Produktif Terhadap Pemberdayaan Ekonomi Usaha Mikro Kecil Menengah (UMKM) Melalui Program Pekanbaru Makmur Pada BAZNAS Kota Pekanbaru Abstrak Pendahuluan*. 11.
- Habib, M. A. F. (2021). Kajian Teoritis Pemberdayaan Masyarakat Dan Ekonomi Kreatif. *Journal of Islamic Tourism Halal Food Islamic Traveling and Creative Economy*, 1(2), 82–110. <https://doi.org/10.21274/ar-rehla.v1i2.4778>
- Hadi, A., & Mariana, S. (2022). Pembuatan Green House sebagai Media Edukasi dan Kewirausahaan Desa yang Berbasis Lingkungan. *Jurnal Inovasi Dan Pengabdian Kepada Masyarakat*, 2(3), 457–466.
- Hafidhuddin, D. (2002). *Zakat dalam perekonomian modern*. Gema Insani. <https://books.google.co.id/books?id=a6o2sAU07XkC>
- Hasyim, I., & Wahyudi, I. (2024). Implementasi Penerapan Zakat Produktif Terhadap Kesejahteraan Mustahik di Lembaga (LAZISMU) Pamekasan. *Islamic Economics And Finance Journal*, 2(2), 55–63.
- HRP, S. (2024). *Analisis Dampak Pendayagunaan Dana Zakat Produktif Terhadap Kesejahteraan Mustahik*

dengan Menggunakan Model CIBEST. IAIN Pontianak.

- Huda, N., Novarini, Mardoni, Y., & Permatasari, C. (2015). *Zakat Perspektif Mikro dan Makro.* Lazismu. (2024). *Lazismu Banyumas.* <https://lazismubanyumas.org/>
- Makhrus, & Hidayat, S. (2021). Peranan Bank Wakaf Mikro dalam Pemberdayaan Ekonomi Masyarakat di Purwokerto. *Jurnal Ilmiah Ekonomi Islam*, 7(2), 577–586. <https://doi.org/10.29040/jiei.v7i2.2249>
- Musa, A. (2020). *Pendayagunaan Zakat Produktif.*
- Mustika, I. A., Abdullah, M. W., & Darussalam, A. Z. (2024). Pendayagunaan Zakat Melalui Program Bantuan Disabilitas (Studi Kasus: Badan Amil Zakat Nasional Kabupaten Bulukumba). *Al-Ubudiyah: Jurnal Pendidikan Dan Studi Islam*, 5(1), 39–47.
- Naufal, A. (2022). Rancang Bangun Alat Monitoring Aliran dan Jumlah Air Pada Green House Berbasis ESP 32. *Jusikom: Jurnal Sistem Komputer Musirawas*, 7(1), 41–52. <https://doi.org/10.32767/jusikom.v7i1.1531>
- Nugraha, D. H. (2021). Analisis Peran Zakat Pada Masa Pandemi Covid-19. *QULUBANA: Jurnal Manajemen Dakwah*, 1(2), 88–102. <https://doi.org/10.54396/qlb.v1i2.191>
- Ramadhani, C. R., Hamzah, R. A., Nisma, N., Fitri, R., & Wahyudi, A. A. (2025). Penerapan Teknologi Hidroponik Sebagai Solusi Pertanian Berkelanjutan di Lingkungan Perkotaan. *Matano: Jurnal Pengabdian Dan Pemberdayaan Masyarakat*, 1(1), 1–9.
- Rochman, U. H., & Subarkah, A. (2024). Pemberdayaan masyarakat dalam situasi tanggap darurat bencana gempa bumi dan longsor melalui santri siaga bencana di Kabupaten Cianjur. *Jurnal Abdimas Mahakam*, 8(1).
- Sathyanarayana, S. R., Gangadhar, W. V., Badrinath, M. G., Ravindra, R. M., & Shriramrao, A. U. (2022). Hydroponics: An Intensified Agriculture Practice to Improve Food Production. *Reviews in Agricultural Science*, 10, 101–114. https://doi.org/10.7831/ras.10.0_101
- Setiyaningtiyas, N. W., Afifudin, A., & Taqwiem, A. (2025). Analisis Pemanfaatan Dana Zakat Produktif Sebagai Sumber Modal Bagi Usaha Mikro di Badan Amil Zakat Nasional (BAZNAS)(Studi Kasus Pada Mustahik BAZNAS Kota Malang). *Jurnal Warta Ekonomi*, 8(01).
- Suminah, S., Anantanyu, S., Suwanto, S., Sugihardjo, S., & Padmaningrum, D. (2023). The Influence of Empowerment towards Agricultural Business Actors' Ability in Surakarta, Indonesia. *Social Sciences*, 12(2). <https://doi.org/10.3390/socsci12020076>
- Tamsuri, A. (2022). Literatur Review Penggunaan Metode Kirkpatrick untuk Evaluasi Pelatihan di Indonesia. *Jurnal Inovasi Penelitian*, 2(8), 2723–2734. <https://doi.org/https://doi.org/10.47492/jip.v2i8.1154>

- Thiele, L. P. (2024). *Sustainability*.
- Tyas, P. W. (2024). Analisis Efektivitas Pengelolaan Dana Zakat Produktif Dalam Upaya Pengentasan Kemiskinan Pada Badan Amil Zakat Nasional (BAZNAS) Kabupaten Tulungagung. *Jurilma: Jurnal Ilmu Manajemen Indonesia*, 1(1), 19–24.
- Waluyo, M. R., Nurfajriah, Mariati, F. R. I., & Rohman, Q. A. H. (2021). Pemanfaatan Hidroponik Sebagai Sarana Pemanfaatan Lahan Terbatas Bagi Karang Taruna Desa Limo. *Ikrath-Abdimas*, 4(1), 61–64. <https://journals.upi-yai.ac.id/index.php/IKRAITH-ABDIMAS/article/download/881/669>
- Wasik, A. (2020). Menelaah Kembali Prinsip Zakat Produktif (Upaya Mengubah Masyarakat Konsumtif Menuju Masyarakat Produktif). *Al-Hukmi: Jurnal Hukum Ekonomi Syariah Dan Keluarga Islam*, 1(2), 159–176. <https://doi.org/10.35316/alhukmi.v1i2.1179>
- Yusna, N., & Saifuddin, M. (2024). Pemberdayaan Masyarakat Melalui Program Zakat Produktif BAZNAS Lampung Utara dalam Meningkatkan Kesejahteraan Masyarakat. *Syarikat: Jurnal Rumpun Ekonomi Syariah*, 7(1), 123–133.
- Zen, M. (2025). Strategi Marketing Pemberdayaan Ekonomi Mustahik di Rumah Zakat Sumsel Dalam Meningkatkan Kesejahteraan Ekonomi. *Al-A'mal: Jurnal Manajemen Bisnis Syariah*, 2(1), 1–6.