The Role of Zakat Empowerment Program in Transforming the Unbanked Farmer:

Case Study of BSI Village Program in Rejo Asri, Central Lampung

A Thesis

Submitted to the Master's Study Program of Economics in partial fulfillment of the requirements for the degree of

Master of Arts (M.A.)

by:
Citra Widuri
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ABSTRACT

Citra Widuri
03212210006
citra.widuri@uiii.ac.id
Economics
Universitas Islam Internasional Indonesia

The exact processes, tactics, and results of the BSI Village Program are the focus of this study. It aims to identify the elements that contribute to the transformation of unbanked people into active bankable persons within the role of zakat empowerment program by performing a thorough case study. The research focuses on the intervention of BSI Village Program, a community development initiative implemented in Rejo Asri village, Lampung Tengah, Sumatra, Indonesia from 2019 to 2022. The particular BSI Village program was a special situation to empower 100 poor families by the use of zakat funds in community development activities. The research employs a mixed-methods approach, combining qualitative and quantitative data collection methods. The qualitative data were collected through focus group discussion (FGD), interviews, and document analysis, while the quantitative data were collected through a survey of the beneficiaries and experts. The survey involved 78 accessible beneficiaries and 10 experts. The perception survey results were analyzed by a cross regression to measure the influence of zakat empowering program on productivity, financial literacy and financial inclusion. System expert's rating survey were conducted with two consecutive sequences of Interpretive Structural Modelling (ISM) and Analytical Hierarchy Process (AHP) to define the exact process of BSI Village program and how might alternative strategy can be used. The findings reveal that the BSI Village Program has raised the beneficiaries from poverty line by year 2022. The zakat empowering program was perceived as influential to productivity, financial literacy and financial inclusion of the beneficiaries. BSI Village program can be defined into top five elemental process according to ISM analysis. In the context of retrospective goal, the AHP result the transformation of the unbanked people into active bankable person in the agricultural/farming sector can be achieved by mostly productive intervention without exit strategy (closed loop). The research concluded that BSI Village program is influential to the transformation of the unbanked farmer into active bankable individuals in Rejo Asri, Lampung Tengah with the role of zakat empowerment program in the process.

Keywords: *Zakat Empowerment Program, Financial Inclusion, Financial Literacy, Agricultural Productivity, Community Development, ISM, AHP*

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ABBREVIATION DIRECTORY

AHP	:	*Analytical Hierarchy Process*
BPS	:	*Badan Pusat Statistik (National Statistical Agency of Indonesia)*
BSI	:	*Bank Syariah Indonesia (in Bank BSI, stands for one of the largest shariah Bank in Indonesia)*
BSI	:	*Bangun Sejahtera Indonesia (in BSI Village and BSI Maslahat)*
CSR	:	*Corporate Social Responsibility*
DKNI	:	*Dewan Nasional Keuangan Inklusif (National Council for Financial Inclusion of Indonesia)*
FGD	:	*Focused Group Discussion*
GDP	:	*Gross Domestic Products*
ISM	:	*Interpretive Structural Modelling*
LAZNAS	:	*Lembaga Amil Zakat Nasional (Non-Government Zakat Management Organization in National Level)*
MSMEs	:	*Micro, Small and Medium Enterprises*
OECD	:	*Organization for Economic Co-operation and Development*
OJK	:	*Otoritas Jasa Keuangan (Financial Services Authority of Indonesia)*
OLS	:	*Ordinary Least Square*
OPZ	:	*Organisasi Pengelola Zakat (Zakat Management Organization)*
PP Gapsera	:	*Perkumpulan Poktan Gapsera Sejahtera Mandiri (Local organization for BSI Village program)*
RPJMN	:	*Rencana Pembangunan Jangka Menengah (National Medium-Term Plan of Indonesia)*
SDGs	:	*Sustainable Development Goals*
SLIA	:	*Sustainable Livelihood Impact Analysis*
SNLIK	:	*Survei Nasional Literasi dan Inklusi Keuangan (National Survey for Financial Literacy and Inclusion in Indonesia)*
SPSS	:	*Statistical Package for Social Sciences*
SSIM	:	*Structural Self Interaction Matrix*
UNDP	:	*United Nation Development Programme*
UU	:	*Undang-undang (The National Law/Bill applied in Indonesia)*
YBSMU	:	*Yayasan Bangun Sejahtera Mandiri Umat (former name of BSI Maslahat)*

yoy	:	*year on year*
ZEP	:	*Zakat Empowerment Program*
ZIS	:	*Zakat, Infaq, Sadaqa*
ZISWAF	:	*Zakat, Infaq, Sadaqa, and Waqf*

CHAPTER 1
INTRODUCTION

1.1 Background

Year 2022 was marked by a lack of predictability, 2023 is characterised by a significant disparity in wealth and opportunities. Projections indicate that the global economy is predicted to see a growth rate of 1.7% in 2023 and 2.7% in 2024. This decline in growth is anticipated to have a broad impact across all regions. The forecasts for 2023 have been revised down for 95% of advanced economies and about 70% of emerging market and developing nations[1]. The World Inequality Report 2023 indicates that the bottom 50% of the worldwide population holds 2% parts of total global wealth, and the top 10% holds a 76% share(Piketty et al., n.d.).

Given that financial wealth is a significant driver of future economic benefits, as well as an increasingly influential factor, this suggests that inequality will continue to rise (Dzulkepli & Barom, 2021). Undoubtedly, the core of this explosion lies in the excessive consolidation of economic power within a tiny fraction of the ultra-wealthy. The wealth of the top 10% globally, representing the middle class in wealthy countries and the wealthy people in impoverished nations, is actually experiencing slower growth compared to the global average (Piketty et al., n.d.).

However, the top 1% is growing at a much faster rate. Between 1995 and 2021, the top 1% accumulated 38% of the overall increase in global wealth, while the bottom 50% only captured an inadequate 2%. During that time period, the proportion of wealth held by the top 0.1% of the global population increased from 7% to 11%, while the wealth of billionaires worldwide experienced a significant surge (Piketty et al., n.d.).

Inequality incorporates the unequal division of resources, opportunity, and wealth within a society, leading to the persistence of poverty and marginalization among the lower 50% of the global population. Global economic growth and poverty reduction are greatly aided by financial inclusion. Despite tremendous attempts to increase financial access, a sizable portion of people, especially in marginalised groups, continue to lack access to basic financial services and are

[1]https://www.worldbank.org/en/news/feature/2023/12/18/2023-in-nine-charts-a-growing-inequality

not banked (Dzulkepli & Barom, 2021). Innovative strategies that make use of already-existing social networks and community resources are needed to address this issue and promote financial inclusion.

A sizeable fraction of the world's population, estimated at over 1.7 billion adults, is still unbanked, according to latest World Bank figures. This lack of access to formal financial institutions restricts people's ability to save, invest, and obtain credit, which slows economic expansion and keeps poverty cycles alive. The lack of financial inclusion, particularly in rural and marginalised populations, exacerbates already-existing socio-economic inequities (Mohieldin et al., 2012).

In the fourth quarter of 2023, Indonesia's economic growth reached 5.04 percent (yoy), slightly surpassing the government's estimated growth of 5 percent. The primary driver of this expansion is the rise in household spending and investment. In 2023, Indonesia's gross domestic product (GDP) experienced a 4.82 percent growth in household consumption, which is the largest component of the GDP. Meanwhile, investment expanded by 4.40 percent, because of the successful implementation of the infrastructure development program. Despite a decrease in investment growth compared to the previous year, this indicates continued investor confidence in the Indonesian economy[2]. Nevertheless, Indonesia's economic growth has not led to a substantial alleviation of economic inequality, as illustrated by the persistent poverty rate of 9.36 percent as of March 2023, affecting approximately 25.9 million people[3]. Inclusive growth hinges on the full participation of all societal segments in the economic development process. Consequently, with economic expansion, it is anticipated that poverty rates, inequality, and unemployment will diminish simultaneously.

Theoretical correlation between financial inclusion and poverty is included in the financial development concept. Financial inclusion has both direct and indirect impacts on poverty. Financial inclusion in direct channels assists in reducing poverty by expanding entrepreneurial opportunities through increased access to financing, resulting in higher incomes and improved livelihoods. Financial inclusion in indirect channels promotes economic growth by facilitating and encouraging economic transactions. This leads to job creation and an increase

[2]https://setkab.go.id/dinamika-pertumbuhan-ekonomi-indonesia-2023-dan-proyeksi-tantangan-2024/

[3]https://www.bps.go.id/id/pressrelease/2023/07/17/2016/profil-kemiskinan-di-indonesia-maret-2023.html

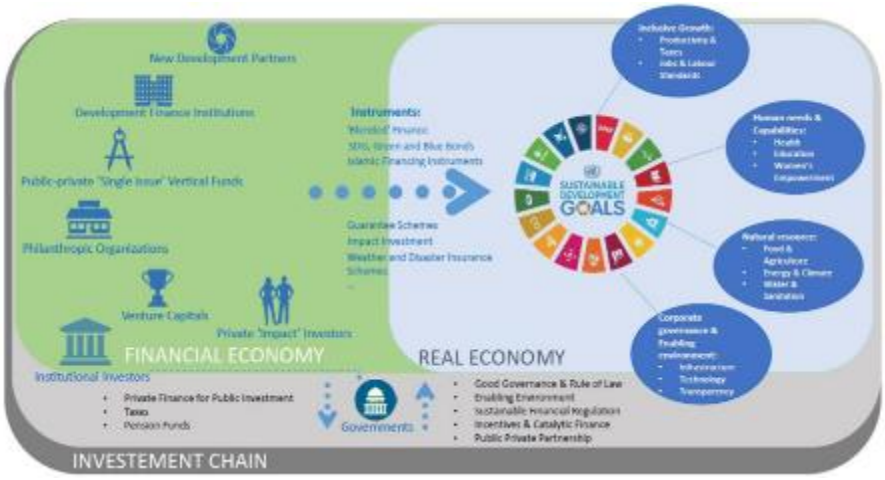
in government tax revenue, which benefits the poor through employment opportunities and public investment on social programs (Nsiah et al., 2021).

Financial inclusion can be examined from two distinct perspectives: the supply and demand side. The supply side explores the availability and accessibility of financial services offered by institutions, such as banking infrastructure, product offers, and regulatory environment. Meanwhile, the demand-side perspective focuses on individuals' financial service behaviours, requirements, and preferences, such as financial literacy, trust in institutions, and socioeconomic considerations.

Islam has a strong emphasis on financial inclusion, which is visible by means of two specific characteristics of Islamic finance: risk-sharing and wealth redistribution. These qualities establish Islamic finance apart from the conventional financial industry and contribute to its unique development (Mohieldin et al., 2012). The first wealth redistribution instrument is Zakat.

Zakat, as one of the pillars of Islam, has been proven for more than 1400 years to be a social and economic instrument in the midst of the lives of Muslim communities. This long-standing practical implementation offers a unique perspective on sustainable development that is specifically mainstreamed by UNDP as SDGs. Zakat has to ensure steady wealth redistribution among the eight categories of beneficiaries and people who are obliged to pay zakat, where the distribution composition is determined based on the urgency of maqosid sharia, which does not only talk about poverty or inequality but holistically builds a zakat civilization. This contributes to the resilience and sustainability of Islamic society across diverse socio-economic and political landscapes over centuries.

Figure 1. 1 UNDP Sustainable Development Framework



Source: UNDP, 2019

Meanwhile, UNDP promotes sustainable development as an answer to industrialization, in the sense that industrialization is the cause of growing poverty, inequality, and climate change. The sustainability perspective between Zakat and the SDGs certainly has fundamental differences in terms of values but convergently meets the expected output and outcome. According to figure 1.1 above, zakat in the UNDP framework is positioned as part of a diverse array of financial instruments, namely Islamic financing with its mandatory nature and specific allocation criteria, which can be a source of funding for achieving the SDGs.

In Indonesia, zakat management is regulated through institutions that aim to improve the efficiency and effectiveness of zakat services, as well as maximize the benefits of zakat to promote community well-being and alleviate poverty (UU 23/2011, n.d.). The aims of zakat management are achieved through the implementation of consumptive and productive intervention measures (Nafik, 2012). The Zakat empowerment-based village development program is one such productive intervention strategy. The program combines the empowerment using zakat funds to the targeted community and well delivered assistance efforts resulting the transformation of unbanked people into engaged, bankable people. Referring figure 1.1, zakat can also play a pivotal role in fostering real economy among community.

The case study of BSI Village Program specifically in Rejo Asri Village Central Lampung, a remote hamlet that has implemented a Zakat empowerment-based community development program, is the subject of this case study. In order to promote financial inclusion and enhance the socioeconomic well-being of its citizens. BSI Village Program is a special situation where the use of Zakat funds has been included into community development activities, which was implemented in more than 20 locations in Indonesia. The particular BSI Village in Rejo Asri Village of Central Lampung was the only case among all BSI Village Program that had a portfolio of recording the transformation of unbanked farmer into active bankable individual and acknowledged by Top CSR Award 2021 (as part of CSR Program from Bank BSI).

1.2 Formulation of the Problem Statement

Inclusive finance has a good and significant effect on investment and growth, as well as a negative and major impact on poverty (Anwar et al., 2016). Refers to the Susenas BPS which reports that the level of financial inclusion in

Indonesia has reached 88.7% in 2023. This figure has increased from 85.1% in 2022 based on the National Survey of Financial Literacy and Inclusion (SNLIK) conducted by the Financial Services Authority (OJK). The financial inclusion target in 2024 is 90% set through the coordinating minister for the Economy Decree 122/2020. Meanwhile, the financial inclusion target in 2029 of 95% is included in the National Medium Term Development Plan (RPJMN) 2024-2029. In detailed, the financial inclusion target will increase by 1% every year starting in 2025. So, it is practically expected that by 2029, the level of financial inclusion can increase to the level of 95%. Apart from the inclusion level, the government through DKNI is also targeting account ownership in the use of financial products and services by 2024 of 80%. Furthermore, the government has increased this target to 90% by 2029.

This situation demands collaboration from many parties involved in the financial ecosystem. Zakat amil institutions are one of the formal institutions recognized by the state to carry out their role as Islamic social financial institutions which of course have a strategic role. In line with its aim of alleviating poverty, several program interventions implemented by zakat amil institutions will link their benefits to various interests, including affordability for owning a bank account and the context of financial inclusion.

The innovative Zakat empowerment-based village development program acknowledges the potential of Zakat funds as a change-catalyst. Zakat, one of Islam's Five Pillars, is a required donation by qualified Muslims based on their wealth. Zakat has always been used to help the weak and disadvantaged, and the program in BSI Village broadens its focus to encompass long-term community development. By integrating Zakat distribution with focused initiatives aiming at boosting financial literacy, offering support for entrepreneurs, and encouraging the use of formal financial services among the unbanked farmer, BSI Village Program has chosen a trailblazing tack. By using an integrated strategy, the community hopes to boost local firms, empower citizens economically, and ultimately enhance their socioeconomic well-being as a whole.

Problem Statements:

1. What are the most effective ways to improve the impact of zakat?
2. Who are the key actors in the process?
3. How to determine the success phase in the process?

1.3 Objectives of the Study

The exact processes, tactics, and results of the BSI Village Program are the focus of this study. It aims to identify the elements that contribute to the transformation of unbanked people into active bankable persons within the framework of this distinctive project by performing a thorough case study. The results of this research offer important new insights into the efficacy of combining Zakat distribution with community development initiatives, as well as lessons learned and potential suggestions for similar initiatives aiming to advance financial inclusion and empowerment.

1.4 Hypothesis

This hypothesis only applied for the regression methods:

1. The intervention from BSI Village program is influential to productivity.
2. The intervention from BSI Village program is influential to Financial Literacy.
3. The intervention from BSI Village program is influential to Financial Inclusion.

1.5 Scope & Limitations

1. In regards to the entire intervention process, this research solely focused on the intervention in Rejo Asri village, Lampung Tengah, from 2019 to 2022 in the context of the BSI Village program held by BSI Maslahat, with particular activities related to the unbanked transformation. There should be Zakat funds involved, as well as any specific program designed to improve the economic status of the targeted households.
2. As for demographic data, perceptions, opinions, and perspectives from respondents (data sources), all of them were taken in 2024.
3. Meanwhile, the data related to income in 2018–2021 was based on the BSI Village program report. The program terminated in 2022, leaving a gap in data, and researchers conducted a survey in 2024 to provide the income data for 2023.

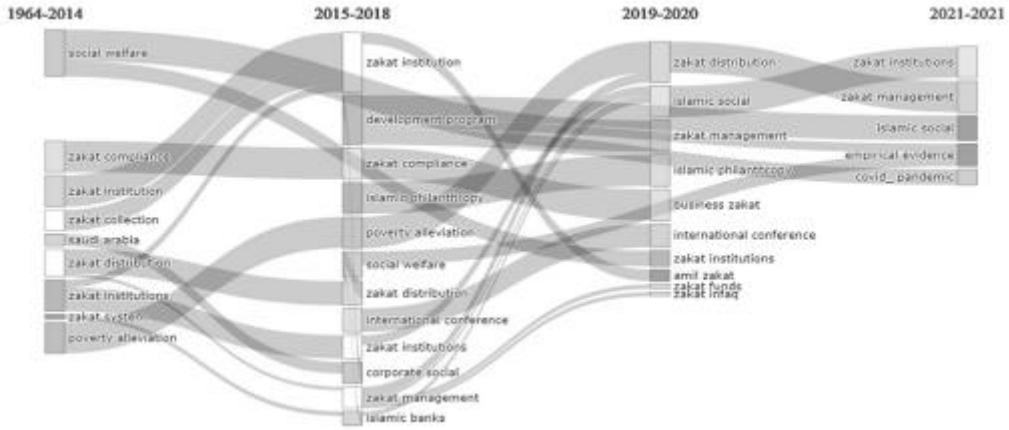
1.6 Research Gap

The existing researches on Zakat theme primarily focuses on the correlation between zakat and financial inclusion from the perspective of the muzakki. It emphasises the importance of integrating banking technology into the operations of zakat management institutions as a way to enhance financial inclusion. Regarding the allocation of zakat to mustahik individuals, there is a potential for

enhancing financial inclusion, which had not been previously identified until this study was conducted.

(Khalifah et al., 2024) found the zakat publishing theme from 1964 to 2021 evolved significantly along 4 periods. Figure 1.2. illustrated how was in 2014 – 2017 academics focused on Islamic aspects, zakat distribution and societal impact. Between 2015 – 2018 it focused on a smaller variety issue, like development program and Islamic philanthropy. By 2019 – 2020 it grew to zakat compliance with the relation to corporate zakat until the late 2021 with the pandemic issues.

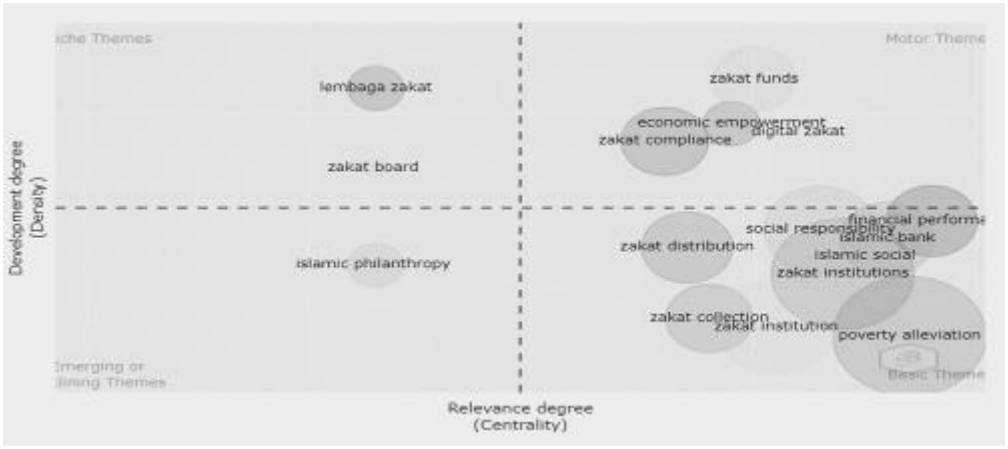
Figure 1. 2 Zakat Publication Thematic Revolution Map



Source: Khalifah et al., 2024

The most discussed theme by researcher is about zakat institution, with majority focus on discussing service quality and management of zakat funds from the zakat institution. From figure 1.3, the second most widely discussed by researcher is optimizing function of zakat and Islamic banks in alleviating poverty. Meanwhile, the relation of zakat and financial economic aspect as part of economic development is still very few on the research. Mostly they looked at maximizing zakat fund's impact by using technology and how the zakat fund contributes to the country's economy.

Figure 1. 3 Zakat Publication on Thematic Map



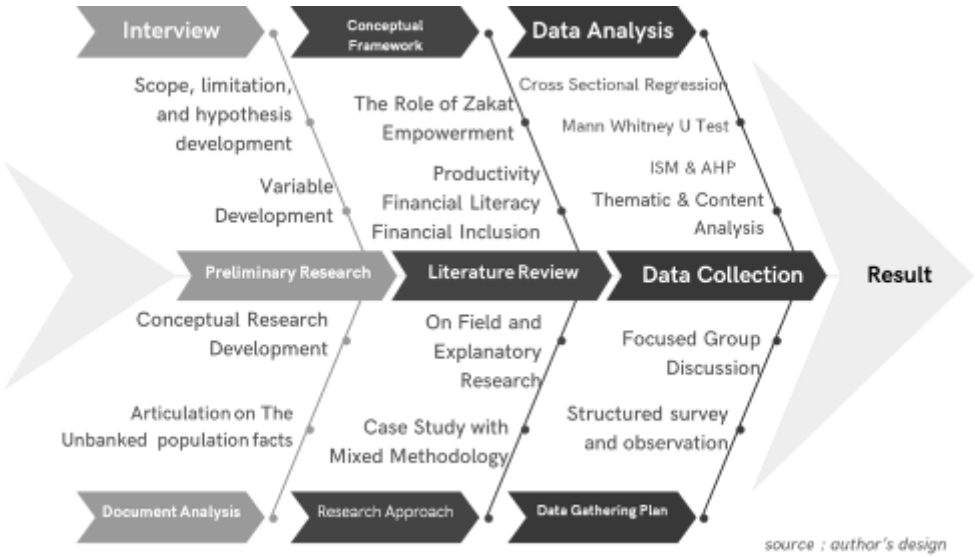
Source: Khalifah et al., 2024

The lack of study on the relationship between zakat and financial inclusion from the demand side is apparent. Moreover, there is a noticeable lack of research that specifically examines the unbanked farmer as a targeted intervention group. The lack of research in this area is especially important considering the potential connection between zakat empowerment program, financial inclusion, and socioeconomic progress. Furthermore, there is a scarcity of work that investigates the effective combination of zakat programs with efforts to improve farmer production and promote financial literacy among unbanked farmer populations. It is essential to address these areas of study that are currently lacking in order to gain a better knowledge of how zakat contributes to the promotion of financial inclusion and its effects on economic empowerment and poverty reduction among marginalised people.

1.7 Research Framework

The research framework in Figure 1.4 explains that the initial step in this study was conducting interviews and document analysis to gain an understanding of how the zakat empowerment program works and how the BSI Village program affects financial inclusion. Initial data obtained before the program was implemented clarified the existence of an unbanked farmer. This condition is the basis for conducting further research and clarifying the variables that influence the situation of unbanked beneficiaries within the scope of the study.

Figure 1. 4 Research Framework



A literature review was then conducted to develop the objectives and hypotheses of the study based on the knowledge gained from various previous studies. Using a comprehensive understanding of previous studies on financial inclusion, zakat empowerment programs, and the difficulties faced by unbanked individuals, this study developed a conceptual framework that became the basis for its investigation. This framework outlines the important elements, relationships, and possible processes by which zakat activities can affect the financial inclusion of unbanked people. After considering the results of the literature review, this study chose a mixed-methods approach as an instrument in data collection and analysis, guided by the conceptual framework.

Overall, there are four major methods: the first is a qualitative approach through interviews, focused group discussions (FGD), document reviews, and observations. This qualitative approach ensures reliable results because it has accommodated the principle of triangulation. The next method is quantitative through a survey of beneficiary perceptions, the results of which were processed using regression analysis. The questionnaire that captures beneficiary perceptions was to collect quantitative information about beneficiary perceptions of the Zakat empowerment program and their financial habits and behaviours.

The third method is interpretive structural modelling (ISM), which uses the results of interviews, FGD, and observations to form nine ISM elements that were then submitted to the expert system to be given ratings and decisions. ISM is a mixed method that allows expert perceptions to become structured quantitative explanations and provides fairly reliable output for answering research objectives.

The last method, which is also a mixed method, is the Analytical Hierarchy Process (AHP). The input from this method is the result of developing variables in the questionnaire and ISM analysis in the form of a set of multicriteria and alternatives that would be given ratings and judgments by different experts.

From the four major methods above, a contextualization was compiled that will answer problem statements and research objectives.

CHAPTER 2
LITERATURE REVIEW

2.1 Zakat Empowerment Concept

Zakat utilization refers to efforts to maximize the benefit of zakat, infaq, and alms funds resources so that they can have an impact on the community in an efficient manner. Zakat can be utilized for the purpose of empowering people in need through a variety of productive programs(Mawardi et al., 2023). It is expected to enhance awareness and comprehension and can shape thought, behavior, and attitude patterns toward independence among targeted individuals or groups.

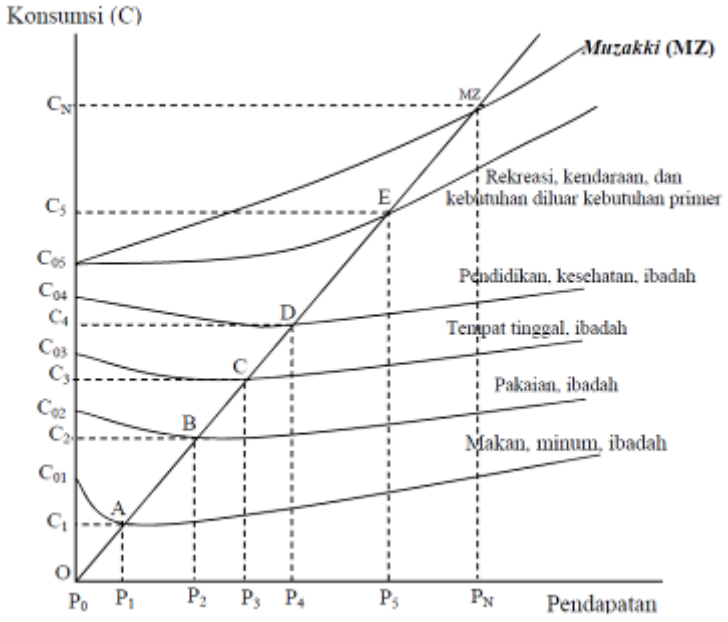
In his detailed analysis, Nafik (2012) illustrates that zakat, a fundamental practice in Islam, serves the purpose of empowering the mustahiq individuals by providing them with the necessary resources to improve their circumstances. This empowerment enables them to eventually transition from being recipients of zakat to being contributors themselves, thereby becoming muzakki. This transition is particularly noteworthy for individuals living in poverty. Figure 2.1 illustrates that at coordinate point 0 (zero), an individual has zero income yet nevertheless consumes C1. This contradicts the expectation that their consumption should be denoted as C01, considering their income level. In such situations, individuals or families may give priority to their needs for food, drinking water, and religious practices. Currently, an individual lacks financial resources as a result of unemployment or incapacity to work owing to physical or mental health conditions. Consequently, all of their essential needs are fulfilled through assistance from others.

Coordinate points A, B, C, and D are categorized as the group for the poor, however coordinate point E signifies an individual or family transitioning from being a recipient of charity to becoming a donor. Point A represents a group whose income is P1. They have used all of their income to fulfil their true needs, such as food, drink, and worship of C1. However, these demands are still lower than their typical needs, which are C01. Consequently, there is an ongoing deficiency of C01-C1 despite regular use. And so on until the condition at point D, when this income group remains unable of meeting its consumption norms and hence qualifies for Zakat distribution.

At point E, individuals in this income bracket change from being eligible to receive zakat to becoming ineligible for zakat. The income group at point E, with a P5 income level, has a significant ability to meet its C5 expectations. This group's capacity surpasses the standard level of needs, leading to an additional income of P5 - C05. If their income further increases to PN while their real consumption level remains constant at C05, and the surplus income exceeds the nisab threshold, then this group can be categorised as a muzakki group, specifically at the MZ point.

From the figure 2.2, the role of zakat management institutions in particular then has several intervention options. If the intervention is consumptive, the zakat funds distributed are a choice of amounts ranging from ZIS4 to ZIS0 for each individual or household that meets the criteria. This intervention in the form of distribution of funds will be spent by mustahiq as a C1-C4 consumptive matter. However, this scenario cannot be anticipated to persist indefinitely because it does not necessarily promote independence.

Figure 2. 1The Manhard Model at the beginning before zakat intervention



source: Nafik, 2012

Zakat management institutions have the option to use a productive intervention strategy, specifically by implementing ways to enhance the income generated from the distributed funds, particularly on the P1 - P5 side. Let's say that Income (Y) can be spent for Consumption (C) and Saving (S) like the model below:

$$Y = C + S \qquad \text{(eq. 1)}$$

If we use Zakat (Z) as consumptive intervention, it would be an additional for C:

$$C = \alpha Yi + \beta Z \qquad \text{(eq. 2)}$$

$$Y0i = \alpha Yi + \beta Z + S \qquad \text{(eq. 3)}$$

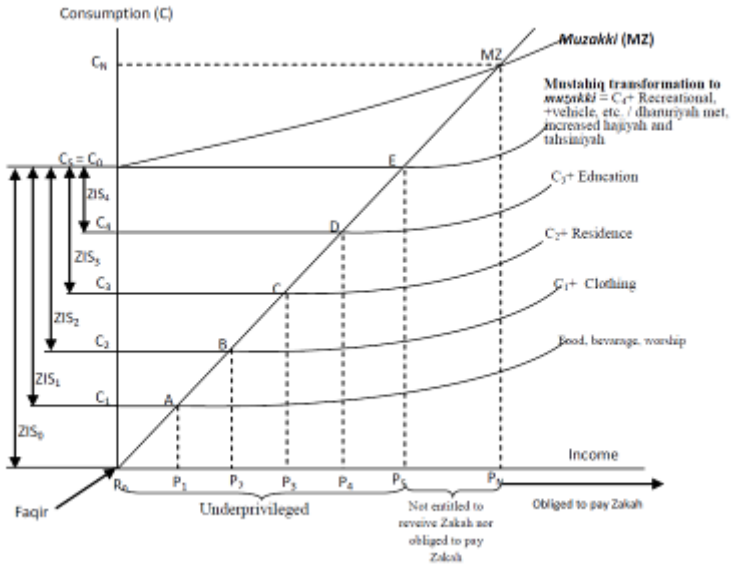
Where $(\alpha Yi + \beta Z)$ is the same amount needed as $Y0i$, because the fact for poor household (point A, B, C, & D) mostly has insufficient Y and no saving, $(S = 0)$. Substituting this condition to eq. 3 will return to eq.1 which is resulting $Y0i = C$ (no possibility of increasing Y except from the amount of Z). This consumptive intervention ultimately only covers the gap in periodic consumption needs which must be provided continuously because there is no sufficient portion to actually increase income. If we use this intervention for the productive side, then zakat will increase income (the possibility of increasing Y) and enable sufficient portions to be available for saving $(S > 0)$.

$$\alpha Yi + \beta Z = C + S \qquad \text{(eq. 4)}$$

This circumstance leads to a multiplier effect, where zakat intervention does not need to be provided continuously. By using organised assessments and assistance the zakat funds can be sufficient to be implemented only once at the beginning of the program. This productive intervention is also known as the Zakat Empowerment Program.

The purpose of empowerment is to strengthen the social and economic capacity of households through regular assistance in the form of productive zakat, so that the income increases and the targeted groups become those who are obligated to fulfils his zakat obligations from the profits of his business using productive zakat funds provided to him (Mawardi et al., 2023). This strategy is referred to as the empowerment model, in which mustahiq individuals are provided assistance in using the zakat funds they receive not only for meeting their consumptive needs, but also as a means of enhancing their productive capabilities.

Figure 2. 2 The Manhard Model For Zakat Intervention



Source: Kusuma et al., 2016

2.2 BSI Maslahat as one of Zakat Management Institution

Yayasan Bangun Sejahtera Indonesia Maslahat (BSI Maslahat), which was founded on November 21, 2001 as Yayasan Bangun Sejahtera Mitra Umat (YBSMU), underwent an official logo and name change in 2022 to BSI Maslahat in an effort to strengthen its partnership with strategic partner PT Bank Syariah Indonesia, Tbk in order to maximise the potential and collection of ZISWAF funds (Zakat, Infaq, Sadaqa, and Waqf), social donations, and corporate social responsibility (CSR), with the aim of attracting both individual and corporate muzakki (donors) .

In the activities of managing and distributing funds to mustahik, BSI Maslahat underlies its program to support and empower the potential mustahik (beneficiaries), so that mustahik have the opportunity and are able to compete to raise better standard of living. BSI Maslahat has a vision to become a trusted and modern ZISWAF (Zakat, Infaq, Sadaqa and Waqf) management institution and social funds, as well as CSR (Corporate Social Responsibility) funds. This vision is then funnelled into 5 missions: 1) Collecting zakat, infaq, sadaqa and waqf as social funds, and also accepting CSR funds; 2) Cultivate a culture of sharing and caring for all levels of society; 3) Create programs that encourage the transformation of beneficiaries to become muzakki; 4) Developing sustainable

programs and providing maximum benefit to the wider community; 5) Realizing good management of ZIS as social funds and the CSR funds in accordance with sharia principles.

The BSI Village Program is an empowerment program for the chosen area/village that focuses on building business clusters inside the community. The business can be agricultural, livestock or plantation. The program is carried out with comprehensive assistance, including both technical and Islamic da'wah approaches. The goals are to increase community revenue by maximising local economic resources through the use of appropriate technology, boosting product added value, strengthening institutional characteristics, and marketing.

2.3 Productivity of Farmers and Financial Inclusion

Agriculture plays a fundamental role in the livelihoods of millions of people in rural communities worldwide, serving as a crucial source of sustenance and economic opportunities. The productivity of farmers is crucial for the success of agricultural endeavours, since they need to effectively utilise resources to produce crops and rear livestock. Improving farmer productivity is a complex task that necessitates access to diverse resources and support systems, such as financial services.

Financial inclusion, which refers to the provision of affordable and easily accessible financial services to populations that have limited access to such services, plays a crucial role in enhancing the productivity of farmers. Farmers require access to finance as a crucial necessity in order to invest in essential resources such as seeds, fertilisers, and equipment (Demirguc-Kunt et al., 2013). By utilising formal financial institutions, farmers have the ability to get financing access in order to fund these investments, hence creating potential for increased productivity and income growth.

Furthermore, financing access enables farmers to effectively manage the various uncertainties that are inherent in agricultural production. The vulnerability of livelihoods is heightened by crop failures, natural disasters, and market changes, emphasising the crucial need for risk mitigation techniques(Binswanger, 1993).

Farmer’s productivity is defined as the farmer’s ability to complete certain tasks in a given number of clock hours, which is measured by the amount of work a farmer completed in terms of area weeded by the farmer himself along with the time taken (Ngambeki, 1982). Agricultural practices in Indonesia necessitate

strict adherence to seasonal cycles and planting-to-harvest timelines, which also involve a restricted timetable for applying fertilisers and pesticides. Applicable to both organic and conventional systems. Failure of farmers to adhere to this timetable owing to financial constraints can jeopardise their crop yield and inevitably lead to a decrease in their earnings. Financially inclusive systems provide farmers with tools such as crop insurance and savings accounts, enabling them to protect their productivity and incomes by mitigating the impact of unfavourable events.

Market access is a vital factor that affects farmer productivity. The ability to sell agricultural products at equitable pricing significantly influences income levels and the ability to invest (Kayongo & Mathiassen, 2023a). Farmers have limited control over post-harvest circumstances. It is common for farmers to experience a surge in the price of seeds and fertiliser during planting, followed by a decrease in the price of grain during harvesting. This typically leads to stagnant income for farmers. When farmers are granted market access and are able to apply yield protection systems, they have the chance to enhance the stability of their revenue from selling their products. By enabling farmers to connect with buyers and access higher-value markets, financial inclusion empowers them to optimize their production decisions and capitalize on lucrative opportunities (Supartoyo, 2023).

2.4 Financial Literacy and Zakat Empowerment

One of the G20 Principles for Innovative Financial Inclusion is Empowerment, which entails the promotion and enhancement of financial literacy and financial capabilities. Financial literacy is a series of processes or activities to improve the knowledge, competence and skills of consumers and the wider community so that they are able to manage finances better (Amidjono et al, 2016). Huston (2010), states that financial literacy occurs when an individual has a set of skills and abilities that make the person capable of utilizing existing resources to achieve goals. According to Gilarso (2004), a lot of temptation of life has occurred and offered a luxurious life. As a result, people's income is always viewed as low income since they always use their whole money to buy everything. Next, the results of the study conducted by Widayanti et al., (2017), concluded that financial literacy had an effect of 28.9% on the sustainability of MSMEs for businesses. In contrary, Yushita & Amanita (2017), state that in general, the level of financial literacy is low in developed countries.

Moreover, developing countries including Indonesia, face quite serious problems related to financial literacy. It shows that financial literacy has got a positive effect on inclusion as well as financial behaviour. In accordance, Putri et al., (2019), revealed that financial literacy has a positive and significant effect on investment decision making. The same thing was expressed by Aribawa (2016), who stated that good financial literacy would improve the performance and sustainability of MSMEs. Financial literacy along with financial training simultaneously have a significant effect on financial inclusion.

A significant issue arises when zakat funds are allocated as a productive intervention to an eligible household, as it remains uncertain whether the recipients are adequately prepared to effectively manage substantial amounts of funds. The lack of capacity among beneficiaries to allocate the zakat funds towards productive investments, such as capital and work equipment, is a common occurrence. In such situations, assistance and training related to financial literacy becomes important. The policy makers in Indonesia decide that financial literacy is knowledge, skills and beliefs, which influence attitudes and behaviour to improve the quality of decision making and financial management of financial well-being. (OJK, 2023). Eligible households for the zakat empowerment program are required to have a good understanding of their resources, the choices for utilizing funds available to them, and their rights within the financial institutions they are using.

2.5 Financial Inclusion

Users of financial services can be distinguished from nonusers. On the one hand are those who do not use financial services for cultural or religious reasons or because they do not see any need. These nonusers include households who prefer to deal in cash and enterprises without any promising investment projects. These nonusers have access, but they choose not to use financial services. We called them as voluntary self-exclusion, which represent the group that do not really constitute a problem because their lack of demand drives their non-use of financial services. On the other hand, are the involuntary excluded who, despite demanding financial services, do not access to them. There are several different groups among the involuntarily excluded. First, there is a group of households and enterprises that are considered unbanked by commercial financial institutions and markets because they do not have enough income or present too high a lending risk. Second there might be discrimination against certain population

groups based on social, religious or ethnic grounds. Third the contractual and informational framework might prevent financial institutions from reaching out to certain population groups because the outreach is too costly to be commercially viable (Report 2018, n.d.).

Financial inclusion is an important component in the process of social and economic inclusion, in order to boost economic growth, create financial system stability, support poverty alleviation and reduce the gaps among people and regions. The financial inclusion system is materialized through public access to financial services to improve economic ability and ultimately paves the way out of poverty and reduce economic gap (Supartoyo, 2023).

In a complex financial world, it is easy for the “unbanked” to fall prey to predatory lenders and financial scams, especially because many lack adequate financial education (Lyons & Scherpf, 2004). The unbanked are disproportionately represented among lower-income households (Caskey, 2002). Bank accounts as currently offered appear unappealing to the majority of individuals. they do not have accounts because they have almost no month-to-month financial savings to keep (Dupas et al., 2018).

There are still 23.7 percent of adults in Indonesia who do not have an account with a financial institution. In the future, there will be several challenges related to financial inclusion, namely, one, of course we have to reduce the gap between the level of financial inclusion and the level of literacy. Then there are also disparities between regions and between socio-economic based groups.

Many of the unbanked report that they encounter a few problems from their status (Prescott and Tatar, 1999). They have no financial savings, so there is no hardship from not having access to a financial institution to safeguard such saving. They have no immediate need for credit or do not find that their unbanked status excludes them from the credit that they do need. Payment services are also problematic for a variety of reasons (Caskey, 2002).

In the demand side, assume that the unbanked are the same groups of those under the poverty line, we might visit again the views on poverty itself. The first view presumes that people are highly rational, hold coherent, well informed and justified beliefs, and pursue their goals effectively, with little error and with no need for help. The second view attributes to the poor various psychological and attitudinal shortcomings that are endemic and that render their views often misguided, their behaviours lacking, and their choices fallible, leaving them in

need of paternalistic guidance. Bertrand propose the third view, that behavioural patterns of the poor may be neither perfectly calculating nor especially deviant. Rather, the poor may exhibit basic weaknesses and biases that are similar to those of people from other walks of life, except that in poverty, there are narrow margins for error and the same behaviours often manifest themselves in more pronounced ways and can lead to worse outcomes(Bertrand et al., 2006).

Understanding the characteristic of these poor households is critical in designing effective, tailored policies for financial inclusion. Policymakers and researchers often consider low income to be a defining characteristic of the unbanked. This broad characterization of households however, may mask large differences in banking status within low-income groups. In particular, low-income households' access to technology, educational attainment, or employment status may also play a role in determining their banking status (Reports, 2018). Both financial inclusion and financial literacy are only significant if an individual comprehends the potency of their personal resources and possesses a sufficient amount of money to effectively manage. By solely concentrating on the supply side, interventions may overlook essential elements of the income generation issue, which also directly addresses the problems of inequality and poverty.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Type of Research

Observational research is a type of research where researcher observe and analyse a phenomenon without intentionally altering or modifying it. This research entails the systematic observation and documentation of behaviour, events, or phenomena in their natural state. This approach is frequently employed to examine human behaviour, interaction, and phenomena in authentic real-world environments. Observational research is well-suited for case studies due to the following reasons:

1. Identifying factors and processes

   For the identification and exploration of factors and processes contributing to the phenomenon under research. How variables interact and influences outcomes, might be providing insights into the dynamics of the case.

2. Understanding relationship

   The case needs to be observed for identifying patterns and associations that may explain the underlying mechanisms or processes at work by exploring the causal relationships between variables or events within.

3. Testing hypotheses

   According to theoretical framework proposed to explain phenomenon, the observational research provides empirical evidence to support or refute existing theories, contributing to the explanatory power of the case study.

4. Contextualizing findings

   The context of Zakat and its role in the transformation of the unbanked farmer is unique and requires explanation from the natural environment. This form of research helps in contextualising the findings, allowing for a more in-depth knowledge of the factors generating the phenomenon and increasing the study's explanatory usefulness.

5. Iterative exploration

   The circumstances being researched occur in natural settings that are covered on sites; this approach enables for iterative exploration and development of theories due to any recurring patterns that may be

discovered. The study may be revised and expanded based on new findings and data acquired during the research.

6. Mixed-methods approach

   In explanatory case studies, observational research can be complemented by using other data collection methods, such as interviews, surveys, or document analysis. Employing a mixed-methods approach enables researchers to combine data from several sources, so strengthening the comprehensiveness and credibility of the explanatory analysis.

3.2 Research Approach

The approach is Case Study, which is being methodologically observed with mixed method. Case study is an empirical inquiry that investigates phenomena in real-life contexts, when the boundaries between phenomenon and context are not clearly visible and where multiple sources of evidence are used (Yin, 2015). Case studies are more appropriate when the subject of a research question is related to how or why (Yin, 2015).

We used qualitative methodology of case study, especially the explanatory and the descriptive approach. Qualitative research is a research method that tries to gain a deeper understanding of a phenomenon connected to research subjects as evidenced in behaviour, perceptions, motivation, and action (Moelong, 2009). The explanatory approach would be useful for comprehending the causal relationships and underlying mechanisms that contribute to the transformation of unbanked individuals into active bankable individuals. It would aid in identifying the factors and interventions responsible for the change (Yin, 2015). Using this methodology, we investigate the specific strategies, initiatives, and interventions implemented within the community development project and assess their effect on financial inclusion and individual banking behaviour. This strategy would entail identifying the primary drivers, mechanisms, and conditions that result in the intended outcomes.

The use of a descriptive approach is expected to complement the explanatory approach by providing a comprehensive explanation of community development initiatives and the processes involved in transforming unbanked individuals into active and bankable individuals. Through a descriptive approach, things like the characteristics, objectives, and target population of the program, as well as whether or not specific actions are taken to promote financial inclusion, can be collected and analysed. This methodology would provide a firm

foundation for comprehending the project's design, implementation, and participants' experiences (Yin, 2015).

This study methodically reveals the explanatory aspect through the use of interpretive structural modelling (ISM) to collect substantial evidence from the independent variable, namely the Zakat empowerment program (ZEP). The descriptive approach uses the Analytical Hierarchy Process (AHP) to systematically decide the criteria and alternatives resulting from the interaction between the independent variables and each dependent variable.

The use of explanatory and descriptive approaches provides an advantage in how this study can gain a comprehensive understanding of the zakat empowerment program that leads to the transformation of unbanked people into active individuals who are eligible for bank loans. The need to identify elements and mechanisms that drive change can be met through the explanatory approach, while the descriptive approach will provide a detailed description of the various criteria and alternatives to then become a systematic decision-making path. By using this integrated approach, the case study that is carried out will obtain a more in-depth examination of the program's impact and provide valuable insights into the strategies, challenges, and outcomes associated with financial inclusion in the context of zakat empowerment.

3.3 The Regression Analysis

The regression analysis was used for better understanding of the relationship between zakat empowerment program settings related to productivity, financial literacy, and financial inclusion. Using a cross-sectional regression technique, these variables were analyzed into a single equation to quantify their cumulative impact on each other.

The basic framework of cross-sectional regression involves estimating the parameters of a linear equation that represents the relationship between the dependent variable and independent variables within a given dataset. According to the hypothesis, there are three dependent variables (Financial Literacy, Financial Inclusion and Productivity) and one independent variable (Zakat Empowering Program). The model can be represented as:

$$P = C_1 + \beta_1 ZEP + \varepsilon$$

$$FL = C_2 + \beta_2 ZEP + \varepsilon$$

$$FI = C_3 + \beta_3 ZEP + \varepsilon$$

Where:

- C (C_1, C_2, C_3) is constant
- P is Productivity, FL is Financial Literacy; and FI is Financial Inclusion (from the perception survey, Likert scale)
- ZEP is independent variable for Zakat Empowering Program (from the perception survey, Likert scale)
- β_1, β_2, and β_3 are the coefficients (parameters) to be estimated,
- ε is the error term representing the difference between the observed and predicted values.

The objective of cross-sectional regression analysis is to calculate the coefficients that provide the most accurate fit to the observed data points and minimize the total squared errors. The estimation is commonly performed using ordinary least squares (OLS) regression, which computes the coefficients that minimize the sum of squared differences between the observed and predicted values. After estimating the coefficients, they can be analyzed to comprehend the correlation between the dependent variable and each independent variable.

The variables above were so called the variables of interest as directly observed for the hypothesis testing. To enhance the stability of independent variable (ZEP), this study was not limited to incorporate controlling variables such as the beneficiaries' age, education background and income growth by the time of zakat empowerment program implemented. The model with controlling variables can be represented as below:

$$P = C_1 + \beta_1 ZEP + \beta_4 Edu + \beta_5 Age + \beta_6 IG + \varepsilon$$

$$FL = C_2 + \beta_2 ZEP + \beta_7 Edu + \beta_8 Age + \beta_9 IG + \varepsilon$$

$$FI = C_3 + \beta_3 ZEP + \beta_{10} Edu + \beta_{11} Age + \beta_{12} IG + \varepsilon$$

Where:

- C (C_1, C_2, C_3) is constant
- P is Productivity, FL is Financial Literacy; and FI is Financial Inclusion (from the perception survey, Likert scale)
- ZEP is Zakat Empowering Program (from the perception survey, Likert scale)
- Edu, Age and IG are controlling variables. Edu is education level of the beneficiaries (dummy data of education level), Age is the age of

beneficiaries (year of age) and IG is the income growth of the beneficiaries from year 2019 to 2023

- $\beta_1, \beta_2, \ldots. \beta_n$ are the coefficients (parameters) to be estimated,
- ε is the error term representing the difference between the observed and predicted values.

The coefficient β_1, β_2, and β_3 represent the impact on the dependent variables when the independent variable (ZEP) increases by one unit, while keeping all controlling variables constant.

3.4 Interpretive Structural Modelling (ISM)

Interpretive Structural Modelling (ISM) is a technique used in the field of operations research and management science to analyse complex systems and relationships among elements within those systems. It was developed by J. Warfield in the 1970s and has found applications in various fields such as engineering, management, decision-making, and organizational studies. Below are the step by step on developing ISM (Saxena & Vrat, 1992a) :

1. Element Identification: First of all, to use ISM, an identification of the elements or components of the system being studied is needed. The elements must be part of the complexity of the system and meaningful to the output and outcome of the system, which is the object of research.
2. Establishing Relationships: Elements identified in the first step are then given a contextual relationship determination using VAXO. The existence of relationships between elements or sub-elements can be qualitative, as represented by the term influence.
3. Building a Structural Model: The contextual relationship that has been determined is then re-checked for consistency by logically tracing the relationship between sub-elements as part of a structural self-interaction matrix (SSIM).
4. Matrix Formulation: The SSIM model is then converted into a binary-based reachability and canonical matrix. This matrix shows whether there is a direct or indirect relationship between two elements in the system. Through a calculation mechanism, the driver power and dependence level of each sub-element are obtained. All are depicted in the form of quadrants and digraphs.

5. Analysis and Interpretation: Analysis is conducted on the existing elements and sub-elements, how they are positioned in the power-dependence quadrant, and how their power drivers appear schematically in the digraph.
6. Structural Level and Hierarchy: ISM output in the form of a hierarchy and structure of elements and sub-elements provides input to the next method, namely AHP.
7. Model Validation and Refinement: The results of the element, quadrant, and digraph models can be revalidated and refined through expert opinions.

3.5 Analytical Hierarchy Method (AHP)

The Analytical Hierarchy Process (AHP) is a structured decision-making technique developed by Thomas L. Saaty in the 1970s. This technique is widely used in various fields, such as operations research, management science, engineering, and economics, to help individuals or groups make complex decisions involving multiple criteria and alternatives. AHP provides a systematic framework for breaking down decision problems into their component parts, evaluating those components, and synthesizing the results to produce a decision. The following are the steps in implementing AHP (Penentuan et al., n.d.):

1. Hierarchy Construction: First, before involving experts, the researcher must construct a hierarchical structure of the problem set that will be given a decision, consisting of three main levels: goals, criteria, and alternatives. Goals are the main objectives or intentions of the decision-making process. Criteria are factors, attributes, or elements that contribute to achieving goals, while alternatives are choices, actions, or strategies that are available and considered important to consider.
2. Pairwise Comparison: Referring to the hierarchical structure that is built, a set of pairwise comparisons is compiled that allows decision-makers to assess the relative contribution or priority of criteria and alternatives at each level of the hierarchy. Pairwise comparison involves comparing each element in a particular hierarchy with every other element at the same level based on certain criteria.
3. Scalability and Consistency: In conducting ratings, experts in AHP must provide values on a numeric scale. This scale ranges from 1 to 9, to display the relative contribution or priority of criteria in pairwise

comparisons. The scale is called the Saaty basic scale, which assigns values based on the intensity of preference between two elements. After the experts provide ratings, a consistency check is carried out to ensure that the expert's assessments are logical and free from contradictions.

4. Deriving Priority Weights: In accordance with its character as a decision-making tool, AHP requires a priority weight for criteria and alternatives at each level of the hierarchy. This weight represents the relative contribution and/or priority of each element to the overall goals. Priority weights are obtained through mathematical calculations involving eigenvectors and eigenvalues of the pairwise comparison matrix.
5. Consistency Ratio: The involvement of experts is the systematic use of subjectivity to provide certainty on the side of objectivity, so AHP displays a consistency ratio. Experts are ensured to have consistent assessments when giving judgments on paired comparisons. The consistency ratio is a measure of how closely the assessment process adheres to the principles of transitivity and logical consistency, thereby reducing the risk of subjective bias. The consistency ratio is set at a maximum of 0.1, or 10%. If the experts have a consistency ratio exceeding 0.1, then it is possible that the assessment is inconsistent, and the paired comparisons that have been made need to be revised.
6. Synthesis and Decision Making: The main output of AHP is the ranking of alternatives or an overall evaluation of the decision options. The alternative with the highest overall priority weight is considered the most recommended choice.
7. Sensitivity Analysis: AHP allows for sensitivity analysis to assess the robustness of the decision to changes in the input data or judgments. Sensitivity analysis helps in understanding how variations in the priority weights impact the final decision and can inform risk management and decision-making under uncertainty.

3.6 Variables and Model

Table 1 explains each variable as an operative variable in this study. The productivity, financial literacy, and financial inclusion of the unbanked people are expected to be impacted by the BSI Village's zakat empowerment program.

Table 3. 1 The Operating Variables

No.	Variables	Indicator	Operative Definition	Reference
1	Productivity	• Harvest Volume • Farming Capital Ratio • Sales Price of Grain/Rice • Duration of Land-work	The perception of beneficiaries on their comparison between time frame and result from paddy crops in yearly basis.	(Ngambeki, 1982); (Kayongo & Mathiassen, 2023) ; (Binswanger,1993) (Supartoyo, 2023)
2	Financial Literacy	• Investment Perception • Skills in Reading and Interpreting Financial Information • Understanding basic financial concepts and products • Understanding of Financial Products • Financial Decision Making • Budget Management • Debt Management • Financial planning • Behaviour Toward Money • Insurance coverage	The result of a perception survey on each individual's financial knowledge, behaviour, and skills related to everyday and strategic decision making in private and commercial finance. The results from ISM & AHP for each criterion and alternatives.	POJK 3/2023
3	Financial Inclusion	• Access to Bank Accounts or Financial Institutions • Access to Financial Assistance • Access to Financial Products • Participation in a Savings or Investment program • Use of Financial Services • Use of Technology	The results of a perception survey on financial institutions' accessibility and the frequency with which they are actively used for a variety of objectives. The results from ISM & AHP for each criterion and alternatives.	POJK 3/2023
4	Zakat Empowerment Program	• The Group Facilitation and Assistance • The Increasing Production Capacity, Product, and Market Development	BSI Village Program and Intervention consisting of the theory of change and the logical framework analysis The results from ISM & AHP for each criterion and alternatives.	BSI Village Project Archives

Source: author's design

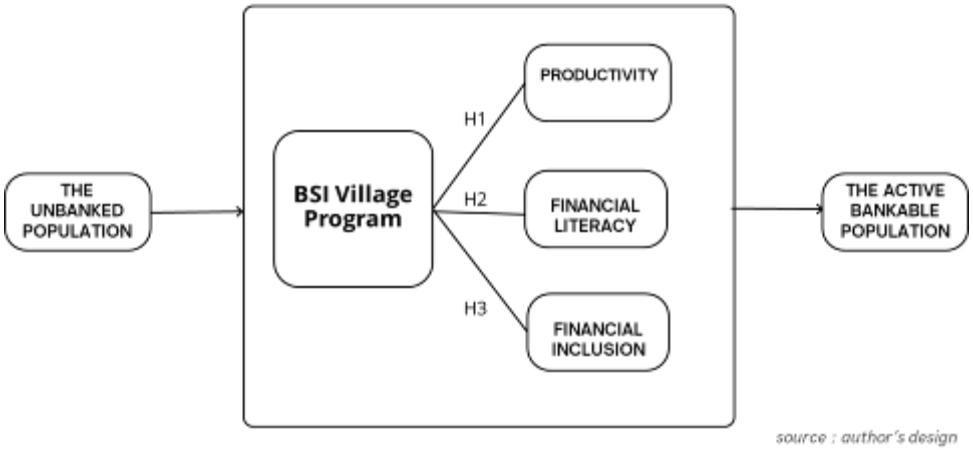
The interaction between variables is illustrated by figure 3.7, The BSI Village program targets exclusively unbanked farmers. Receiving productive zakat intervention, along with assistance, leads to improvements in productivity, financial literacy, and financial inclusion.

The primary hypothesis (H1) is evaluated to determine if the intervention has a positive impact on the productivity of farmers, particularly in relation to their income. Subsequently, there is also an evaluation of the impact of the program's support on financial literacy in H2 by conducting a perception survey among the specific group that the program aims to benefit.

The objective of the shift towards financial inclusion is to ensure that the entire farmer becomes bankable. In H3, the study examines how the BSI Village program intervention affects the perception of the entire farmer regarding their access to financial institutions and their utilization of bank account services.

The work includes a qualitative explanation of a patterned model and program approach. This explanation is supported by crucial phase analyses, which aim to demonstrate the significance of zakat and its key actors. Additionally, each stage is thoroughly discussed.

Figure 3. 1 The interaction between variables on each hypothesis



3.7 Data Sources

To serve the research objectives, there are 4 types of data sourcing for this study:

1. Document Review

   There were three types of documents used as sources for the case study in this research:

   - BSI Village Reports and Evaluation on 2022

- BSI Village SLIA reports on 2021
- PP Gapsera profile

2. Perception Survey

   Data collection was executed from observable and measurable perception. The source for this data was consisting of 78 respondent who were eligible due to their role as the beneficiaries of BSI Village program since 2019. The perception was supported by BSI Village reports on related indicators.

3. FGD & Interview

   Data collection aims to understand individual perspectives and experiences. There were 11 persons as the data sources, who were eligible due to their role as the representatives of program owner, program managers and beneficiaries.

4. System expert data collection

   Data collection was using specific decision-making methodologies as subjected to 10 experts who were eligible due to their experiences and contribution on the related fields of Islamic finance, zakat management, banking sectors and agricultural.

3.8 Data Collection Methods

Overall, this study conducted four data collection techniques. The first stage was data collection through project archives & documents review, which was the first step towards comprehending the historical background and body of literature relevant to the study goals. In the second stage, a thorough survey on the targeted household was then carried out to obtain firsthand information and opinions from those who were directly impacted by BSI Village Program. Recommendations for beneficiaries who could be involved in the survey were obtained from the BSI Maslahat and PP Gapsera teams. The character of the beneficiaries was also a consideration in compiling survey items. The technical aspects of collecting survey data were discussed with the facilitator to obtain accurate perceptions from the beneficiaries. The instrument, consisting of written statements, was compiled based on variables and indicators from the results of the literature study and document review.

The next stage is the interview and FGD. This process is carried out to obtain an explanation and logical sequence of the entire process and phenomena experienced by the resource person. The flow and content of the FGD and

interview have been compiled based on nine program elements that will later be used in the ISM analysis.

The last stage of data collection consists of two surveys with two different expert groups. The first survey of the expert system uses the ISM analysis systematics, whose content refers to the results of the interview and FGD. The last expert system survey is a rating for AHP, which uses the results of the perception survey and ISM as the choice of goals, criteria, and alternatives. The entire data collection process was carried out directly by the researcher and involved various sources, as explained in Section 3.7.

Table 3. 2 Data Collection Steps

Technique	**Steps on Data Collection**	**Possible Input**	**Possible Outcomes**
Project Archives & Documents Review	1. Identify relevant project Documents	Preliminary discussion with Desa BSI team	Specific documents and archive list to be collected
	2. Obtain necessary Permissions	Permission letter to Laznas BSI Maslahat	Research collaboration and permit to access document and archives
	3. Review and analyze	Project proposal, implementation plans, progress reports and evaluations, records and relevant data.	details on BSI Village from each stage. Key information, success factors, challenges and lessons learned to meet the designated variables.
	4.Document and cite sources	Structured result and analysis from each document	Proper citation and reference
Survey on the targeted household	1. Identify interview Participants	Preliminary discussion with Desa BSI team	List of targeted households
	2. Obtain informed Consent	Permission letter to Laznas BSI Maslahat	Research collaboration and permit to interview
	3. Prepare interview Questions	Research plan, preliminary documents/ archives	List of structured questions as questionnaires
	4. Conduct survey	Questionnaires	Answered questionnaires
	5. Analyze data using simple regression	Answered questionnaires	Correlation among variables

Technique	Steps on Data Collection	Possible Input	Possible Outcomes
Focused Group Discussion (FGD)	1. Identify the Experts	List of recommendations from BSI Maslahat and Supervisors	List of invited experts
	2. Prepare FGD materials	Project archives, Survey results, and analysis	List of questions/ discussion topics
	3. Conduct FGD	List of questions/discussion topics	Transcripts & recordings
	4. Analyze FGD results using thematic analysis	Transcripts & recordings	• patterns, themes, and insights to be coded • thematic analysis to meet the designated variables data interpretation
Final Survey	1. Model Preparation	Preliminary discussion with Supervisors	ISM & AHP model and structures
	2. Prepare the questionnaire	ISM & AHP model and structures	Questionnaire ready to use
	3.Conduct Survey	Questionnaire	Data collected
	4.Analyze Data	Data collected	• Hierarchy map • calculation on Influential level for each variable

Source: author's design

3.9 System Expert Preparation

For the purpose of this study, we try to incorporated ISM and AHP altogether. The integration of Interpretive Structural Modelling (ISM) with the Analytical Hierarchy Process (AHP) offers a complete and resilient framework for decision-making in intricate systems(Mârza et al., 2021). Here is a method to combine the use of ISM with AHP for the case study:

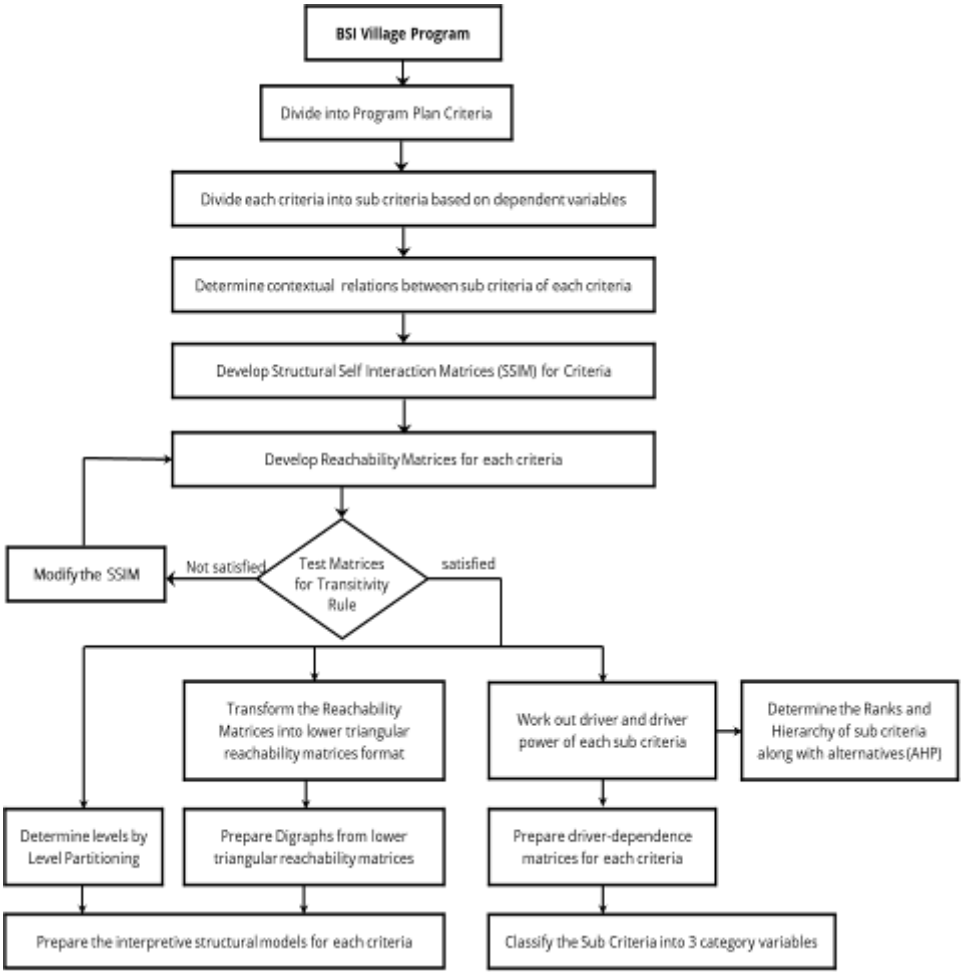
1. Problem identification and scope definition:
    - Commence by explicitly delineating the issue or choice that needs to be resolved. Determine the goals, standards, and options that are part of the situation.
    - Utilise the ISM to gain insight into the interconnectedness of various components inside the problem. This will aid in organising the decision hierarchy for AHP.

2. Development of a hierarchical structure:
    - Create a hierarchical framework that integrates both ISM and AHP elements.
    - Apply the ISM technique to determine the hierarchical levels and interconnections between various parts of the problem. This involves the identification of overarching objectives, intermediary benchmarks, and precise options for making decisions.
    - Apply the AHP to provide weights to criteria and alternatives, considering their relative significance in attaining the goals specified by the ISM technique.
3. Comparisons made between pairs of items and estimation of their priority:
    - Perform pairwise comparisons within each level of the hierarchy to ascertain the relative significance or impact of items.
    - Utilise the AHP methodology to calculate priority weights for criteria and alternatives by analysing the judgements derived from pairwise comparisons.
    - Ensure the uniformity of judgements by employing consistency tests and making required modifications.
4. Combining the results of the ISM and AHP methods:
    - Integrate the findings derived from ISM with AHP to acquire a comprehensive understanding of the intricate connections between different aspects and the comparative significance of criteria and alternatives.
        - Utilise ISM findings to authenticate and offer background to the priority weights obtained from AHP. The field of ISM can provide valuable insights into the fundamental framework and interconnections inside a decision-making dilemma.
5. Analysis and validation of sensitivity:
    - Conduct a sensitivity analysis to evaluate the resilience of the choice when there are changes in the input data and judgements.
    - Verify the integrated model's accuracy by juxtaposing the findings with expert evaluations, past data, or real-life consequences.
6. Decision-making and implementation:
    - Utilise the integrated ISM-AHP model to make well-informed judgements based on the synthesised outcomes.

- Choose the most advantageous option(s) by considering the priority weights assigned through AHP and the insights supplied by ISM.
- Execute the selected decision option(s) and observe the results to assess the efficiency of the decision-making procedure.

The combination of ISM and AHP methodologies gives the advantages of both approaches to effectively tackle intricate choice problems as shown in figure 3.2 below. This integration allows for a more thorough analysis, considering both the interconnectedness of aspects and the significance of criteria and options. This technique improves the resilience and efficiency of decision-making processes in many situations, such as strategic planning, resource allocation, risk management, and policy formation.

Figure 3. 2 The Combination Of ISM and AHP Step By Step



Source: Saxena & Vrat, 1992a

This study used serially connected and complementary methods. The selection of several methods provided a more robust and multi-element

perspective. The use of regression analysis, ISM, and AHP was specifically intended to provide each with a unique contribution to the depth of analysis and decision-making process in achieving research objectives. The table below shows the differences and contributions of each method to the research that has been done.

3.10 Overview of All Methodologies

From the table 3.9.1 to explain the needs of using all the methodologies, there is some different aspects from each method that having a unique output and contributions to the study.

Table 3. 3 The Comparison and Contribution of Regression Analysis, ISM and AHP

Factors	Regression Analysis	Interpretive Structural Modelling (ISM)	Analytical Hierarchy Process (AHP)	Contribution to the study
Objective	Models and describes the relationship between variables of interest	Define the complex elements of relationship between variables in the system	Decide the most recommended intervention model and support the explanation of the most influential variables by multicriteria decision making	The regression analysis provided quantitative insights, ISM structures them and AHP prioritizes the decisions
Data type	Quantitative	Qualitative & Quantitative	Qualitative & Quantitative	Each data was complementary to each other, enhanced the whole data comprehensiveness and reliability
Output	Equation Models and coefficients	Elemental fraction of BSI Village and its structural analysis	Priority on the variables by weightage	Indicator and variables from regression analysis inform ISM and AHP. Elemental structure from ISM informs AHP.
Technicalities	Statistical Analysis, required large datasets and assumed linearity.	Interpretive and structural analysis, can be subjective and time-consuming.	Qualitative judgments through pairwise comparison and synthesis.	The combination methods moderated the limitation of datasets and mitigate the subjectivities. ISM results can be used for better understanding of the problem structuring and system analysis, equation models for impact assessment, and AHP for priority decision making in resources allocation.
Software	SPSS	ISM Professional	Expert Choice	Comprehensive Analysis

Source: Saxena, et.al, 1992; Saaty, T.L 1980; author's analysis

3.11 Program Context

According to the BSI Village program plan, the program termination phase begins after the fourth year. During this phase, in the year of 2022 BSI Maslahat eliminates the role of facilitators and transfers all program follow-up decision-making to the newly formed local institution. BSI Maslahat primarily uses a portfolio of programs for development or as a conduit for other programs, including education, health, and da'wah program.

In this phase, BSI Maslahat positions PP Gapsera as a prioritized strategic partner for various collaboration patterns available within BSI Maslahat, in accordance with PP Gapsera's core business. For example, as a partner in the procurement of goods and services as well as an implementer of certain programs in locations accessible to PP Gapsera. All income arising from these interactions becomes the right of PP Gapsera, which will later increase turnover and profit sharing for its members.

Table 3. 4 The Income Analysis of BSI Village Beneficiaries

	2018	**2021**
Poverty Line BPS Lampung Tengah (IDR)	377,049	450,232
Average income per capita (78 members, in IDR)	231,848	560,787
Average income growth (78 members)		178.74%
Percentage of member who has positive income growth (from 78 members)		91.03%

Source: BPS, BSI Village Project's document

The reality of the termination of BSI Maslahat provides quite meaningful momentum in terms of achieving the goal of increasing beneficiaries' income. In 2018, when the BPS poverty line was IDR 377,049, 100 beneficiaries had per capita income below the poverty line. As explained above, at the time the survey was conducted there were only 78 heads of families who could be found, all of whom were poor families who had income per capita below the BPS poverty line in 2018 (average IDR 231,848). Taking the conditions of these 78 families, it can be seen that in 2021, namely the last year before the termination of the program by BSI Maslahat, their average per capita income reached IDR 560,787 where in that year the BPS poverty line was IDR 450,232. In 2021, BSI Maslahat stated that there had been a transformation of beneficiaries as PP Gapsera members so that they were out of the poverty line with an average growth in member income reaching 178.74%. This is an indicator of program success which is considered a supporting factor for program termination.

After the termination, BSI Maslahat no longer intervened in the form of assistance or disbursement of program funds. The entire zakat funds were disbursed from 2018 to 2021 amounting to IDR 2.914 billion, all of which has been turned into member's individual production assets and also turned into business assets at PP Gapsera, which is 100% owned by 100 beneficiaries. At the time of termination, PP Gapsera was a business worth IDR 6.7 billion, which had grown 2.29 times from when it was first established and made 100 previously poor families become business owners with 1% share ownership each in PP Gapsera.

However, this situation did not last long, the absence of assistance from BSI Maslahat meant that several monitoring and evaluation processes did not work, so that there were no measurements and tracking that should have been carried out to check business development and member income. Data on member income for 2023 was only examined when this research was conducted.

CHAPTER 4
RESULT AND DISCUSSION

4.1 Project Archives and Document Review

BSI Village is part of the zakat disbursement program that targeted poor people under the Islamic category of mustaheeq (those who are entitled to receive zakat disbursement). This program was targeting 100 poor families in Rejo Asri village, District Seputih Raman, Lampung Tengah, Sumatra. The project was utilizing the theory of change presented in Logical Framework Analysis which build from the problem analysis.

Table 4. 1 The Problem Analysis of Poverty in Rejo Asri Village

Root Cause	Problems	Consequences
• The existing land farm lost its productivity due to excessive use of fertilizer and pesticides • Limited land ownership. Equal and less than 2500 sqm for each family	• downtrend of harvest volume • declining revenue from the agricultural output	Low income (less than IDR 750.000, - per family per month) and the vicious cycle of the poverty trap

Source: author's data

Based on the sustainable livelihood impact analysis (SLIA) of BSI Village report, the score for natural assets before the program was implemented was 3.36 on a scale of 5. The assessment of natural assets includes the quality of soil fertility, water availability for agriculture, and the availability of biological resources to support agriculture. The score was assumed to have decreased from the ideal of 4-5. This report also supported by local government's analysis on the soil fertility, using the C-organic element content analysis, it was decreased from 3.02% in 2007 to 1-2% in 2015 (Pemerintah Kabupaten Lampung Tengah, n.d.). The primary root cause of the challenges faced by the farmers is the significant loss of land productivity, which is a direct result of the excessive use of chemical fertilizers and pesticides over time. These substances have degraded the soil quality, leading to reduced fertility and, consequently, lower crop yields. Overall crops in the area were down trending since 2015, from more than 5.6 tons per hectare to only 3-4 tons per hectare in 2019 (Pemerintah Kabupaten Lampung Tengah, n.d.). The chemical residues have not only harmed the soil structure but have also disrupted the natural ecosystem, making the land less productive each season. The excessive use of fertilizer and pesticides was coming from the low

competency of the farmers along with the climate change that brings massive agricultural pests. Meanwhile, the low revenue was a result of agricultural costs, such as expensive fertilizer and land rent.

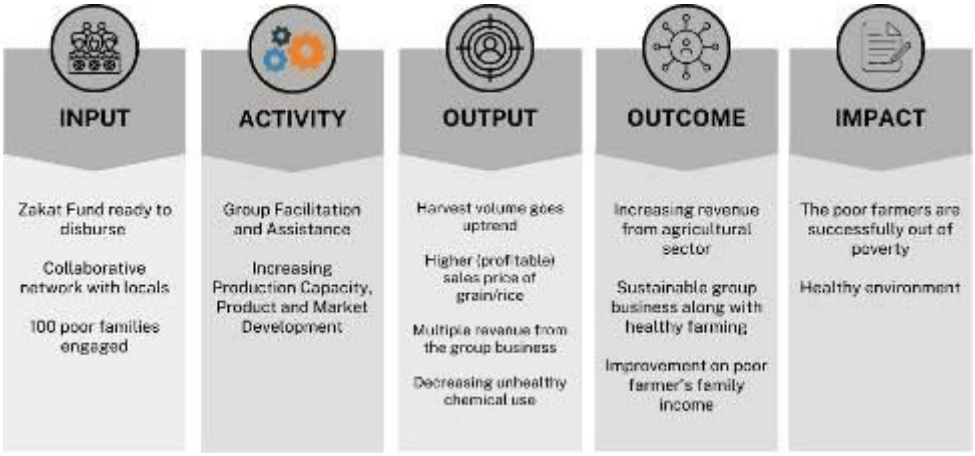
The problem of decreasing soil fertility becomes complicated when coupled with the situation of limited ownership and availability of agricultural land. In the village of Rejo Asri, beneficiaries have land for farming with an area of less than 2,500 square meters. Land in this area is considered insufficient to produce profitable and sustainable harvests. When the land is managed narrowly, farmers will use all means to increase productivity. In this situation, the use of fertilizers and pesticides tends to be excessive, which then damages the land again. Narrow land also limits farmers' ability to use land healthily, implement crop rotation, or leave some land abandoned to be restored. This situation can perpetuate the cycle of land degradation. The root of the problem produces two challenges that farmers must face. First, there is a downward trend in harvest volume as a result of soil fertility, which also continues to decline. Land and plant productivity decrease, resulting in smaller and less frequent harvests. Farmers are very dependent on the quantity and quality of their agricultural products for their livelihoods.

The second challenge is that the decline in harvest volume causes a decrease in income from agricultural products. When the harvest for sale is small, farmers' incomes decline, making it increasingly difficult for them to cover planting costs, invest in better farming practices, or save for future needs. This worsening financial condition creates an uncertain situation for families whose main source of income is already limited. According to data obtained in 2018, the average family income was IDR 750,000 per month, with the average family size being four people. So the per capita income is far below the poverty line, so beneficiary families are trapped in a vicious cycle of poverty. Low incomes limit their ability to invest in quality inputs or do not generate new sources of income. In addition, low incomes hinder beneficiaries' access to education, health, and other essential services, which in turn results in minimal opportunities for improving their quality of life.

The declining productivity of agricultural land due to the excessive use of chemical fertilizers and pesticides, coupled with limited land ownership, has resulted in a decrease in harvest volume and farmer income. This situation requires an integrated plan and strategy that focus on restoring soil fertility,

increasing agricultural productivity, and ensuring the implementation of sustainable agriculture. The theory of change presented as a logical framework analysis below from BSI Village outlines a comprehensive approach to addressing these challenges while maintaining the economic stability of farming communities.

Figure 4. 1 The Logical Framework Analysis of BSI Village



Source: author's data & development from BSI Village' reports

4.1.1 Logical Framework Analysis

Input: BSI Village uses several inputs, namely the distribution of zakat funds, which provides important financial support to start activities, and collaborative networks with local communities and organizations to ensure a strong support system and opportunities for resource sharing. The existence of 100 beneficiaries who are poor families and engaged to be empowered is also an important input to this program.

Activities: BSI Village has several areas and is strategically designed to achieve its objectives. The first series of activities involves the formation and establishment of business groups based on local institutions owned by the beneficiaries. This includes group facilitation and assistance among members, which is fundamental to fostering entrepreneurial skills and confidence. Then, in individual and group situations, interventions are also provided related to increasing production capacity, product development, and market development, which aim to increase the scope and scale of the business. In addition, BSI Village provides assistance to expand the business, offering the support and resources needed to help the business grow. Included in the expansion of

production capacity are activities that focus on restoring soil fertility through healthy agricultural methods, which provide gradual changes towards environmentally friendly agricultural practices. This BSI village involves major changes in the agricultural process from upstream to downstream. The application of this method ensures sustainable agriculture and reduces dependence on hazardous chemicals.

BSI Village introduces an intervention strategy for protecting harvest income by forming a commitment and mechanism with PP Gapsera to buy rice at a higher price. This approach aims to cut the rice distribution channel, ensuring that the beneficiary's rice mill directly handles its production. This not only increases the income of the target group but also increases the efficiency of the production process.

Output: BSI Village is designed to produce several tangible results. First, the availability of alternative business commodities derived from agriculture, such as livestock and organic fertilizers, which was giving multiple revenue for beneficiaries, Second, the profitability of local business groups increases as a result of better business practices and market development and provided a sustain protection for higher sales price on grain/rice from harvest crops. Third, the harvest volume experiences an increasing trend due to the application of healthy agricultural methods, which simultaneously reduces the use of unhealthy chemical as the fourth output.

Outcome: Once the expected output is achieved, a follow-on effect is possible for a sustainable trend of increasing harvest volumes, reflecting increased agricultural productivity. The existence of local and sustainable businesses ensures long-term economic stability and independence for beneficiaries. With increased income from agricultural businesses, the overall financial health of the target group improves. As a result, there is a marked increase in the income of target families, which improves their economic status and quality of life.

Impact: The ultimate impact of BSI Village is expected to be that beneficiaries will successfully escape poverty and achieve financial stability and independence. In addition, the implementation of environmentally friendly agricultural practices contributes to a healthier environment. This dual impact of poverty alleviation and a healthy environment signifies the success of the program in creating sustainable, positive changes in the community.

4.1.2 Project Phases Implementation of BSI Village

In 2018, the BSI Village project started its first phase with a series of foundational events that intended to construct a cohesive team and form a farmer group consisting of 83 individuals. A significant part of the first efforts consisted of spreading awareness about the program among farmers, village stakeholders, and officials from the local government. A baseline evaluation found that farmers had a poor monthly income of IDR 172,000 and relied exclusively on chemical fertilizers and pesticides, with a total production cost per batch of IDR 1.5 million, while farmers relied on chemical fertilizers and pesticides.

The legalization of the farmer group as "Perkumpulan Poktan Gapsera Sejahtera Mandiri (PP GAPSERA)" in accordance with the Decree of the Minister of Law and Human Rights of the Republic of Indonesia was an important milestone that occurred during this phase. The effective formalization of PP Gapsera made it possible for it to serve as the local facilitator and support system for BSI Village. This made it possible for the organization to make use of zakat money in order to build a Rice Mill Facility with a capital of IDR 2.5 billion. Additionally, during this period, the farmers began to become more conscious of the importance of the use of healthy farming techniques. An important thing that was discovered was the importance of utilizing the LAKUPANDAI application in order to overcome the difficulties that the unbankable impoverished households were having in gaining access to banking services.

The year 2019 marked the beginning of the project's second phase, which was centered on the use of environmentally friendly agricultural production methods. PP Gapsera's membership expanded to include one hundred low-income households, each of which managed 2,500 square meters of a total land area of 250,000 square meters. Furthermore, through the use of the LAKUPANDAI program, one hundred individuals belonging to these households had access to the financial system. The Kalpataru award was given to PP Gapsera in recognition of their efforts to promote healthy agriculture, following the rice products that they produce were certified by Sucofindo and Halal certification. This project has garnered attention as a learning environment for organic farming, and it has ensured that its members have access to transparent transactions. The results of this phase included a contribution of 5% of agricultural zakat from

farmers as well as a considerable increase in yields of 148 tons. During this phase, the significance of brand positioning in the initiative to increase financial literacy among farmers was brought to light.

Through partnerships with the local government, colleges, and BSI Maslahat, PP Gapsera was able to increase its activities during the third phase, which took place in the year 2020. After welcoming 52 families that did not have bank accounts as partners, the organization continued to adopt healthy agricultural production, which resulted in a reduction in the overall production costs each batch to IDR 1 million. It was decided to create policies that would allow for a 5% agricultural zakat and a 10% corporate social responsibility contribution to the self-sustaining Group Social Security System. With the goal of providing corporate social responsibility revenues to social services, health services, and emergency loan funds, PP Gapsera emerged as a pilot model for responsible and productive agricultural management. With rice sales reaching 55.17 tons and a sales turnover of IDR 302 million, farmers' incomes increased to IDR 1.3 million, harvests increased by 247 tons, and harvests increased by 247 tons. The revenues from the factory operation amounted to 210 million IDR, and the amount of agricultural zakat that was collected was 6.1 tons, that is 27.5 million IDR. This era represented a substantial change towards ecologically friendly agricultural techniques, including a reduction of 75% in the use of chemical fertilizer and the entire elimination of chemical pesticides, in favor of alternatives that were 100% organic and based on vegetables. Opportunities for study and innovation in organic farming were made possible through collaborations with local colleges. The success of innovations in lowering manufacturing costs and improving community financial literacy was one of the most important lessons learned. As a result, 152 individuals went from not having bank accounts to having bank accounts.

In the fourth phase, which took place in 2021, the total land area handled have risen to 815,000 square meters, while the production cost per batch remained at IDR 1 million. The project adhered to the policies of accounting for 10% of CSR and 5% of agricultural zakat. In addition to being recognized by the Ministry of Agriculture as the Millennial Farmer Ambassador, PP Gapsera has also become a learning center for organic farming for colleges in the Lampung area. Among the results was an increase in the incomes of farmers that were close to the District Minimum Wage, which was 1.84 million IDR. Additionally, all of

the beneficiaries were pulled out of poverty. Increases in harvests totaling 405 tons, sales of rice reaching 672 tons, and sales turnover reaching IDR 6.7 billion were all achieved. The revenues from the factory company were reported to be 757 million IDR, while the agricultural zakat amounted to 89.8 million IDR and consisted of 20.2 tons rice. The project continues to eliminate chemical pesticides in favor of semi-organic alternatives, so reducing the usage of chemical fertilizer to a depth of twenty-five percent. The members of the local institution included fifty-two partner families and the initial one hundred households. During this phase, the project's significance as a rice barn for food and relief program was highlighted, as was its performance as a business model for village business entities. It demonstrated sustainable local business practices and large income generation, which helped alleviate poverty for one hundred families.

4.1.3 The Beneficiaries' Income after Project Termination

Based on the latest survey of 78 members and 6 non-member families who are Gapsera partners, information was obtained that only 32.05% of members experienced positive income growth, compared to 91.03% in 2021, this figure is a fact of a decline or set back that is not expected. In fact, the average income growth compared to 2021 has decreased by 8.49%, this has returned the situation of the beneficiaries to below the poverty line again. The BPS poverty line for Central Lampung in 2023 is IDR 503,645 while the average per capita income for members is only IDR 435,733.

Table 4. 2 The Income Growth Comparison

	2018	2021	2023
Poverty Line BPS Lampung Tengah (IDR)	377,049	450,232	503,645
Average income per capita (78 members, in IDR)	231,848	560,787	435,733
Average income growth (78 members)		178.74%	-8.49%
Percentage of member who has positive income growth (from 78 members)		91.03%	32.05%
Percentage of non member who has positive income growth (from 6 families)			100.00%
Average Income growth for non member (6 families)			46.64%

Source: BPS, BSI Village' report, author's data & analysis

4.2 Survey Results

4.2.1 The Demography Profile of Beneficiaries

The target group for the survey conducted on PP Gapsera's members originally comprised 100 families. However, over the past six years, several uncontrollable changes have significantly affected the group's composition. One

notable change is the migration of members out of the area, which has limited the group's reach and effectiveness. The program is located in a transmigration area established during the New Order era, resulting in a population entirely composed of transmigrants from Java and Bali. As members age or encounter family-related incidents, they frequently opt to return to their hometowns. Consequently, the membership has declined from the initial 100 families to 86.

At the time the survey was conducted, only 78 members were available for participation. The remaining members could not be reached due to communication barriers, including illness and geographic isolation, which were exacerbated by inclement weather limiting transportation routes. Therefore, the survey only included 78 existing members and 6 new members who were considered partners or potential replacements for the former members that's make total 84 participants for this survey. It is noteworthy that PP Gapsera has not yet established a formal mechanism for rotating membership, which could facilitate better management of these demographic changes in the future.

4.2.1.1 The Age Profile

The age distribution among PP Gapsera members reveals a broad range of ages and highlights the generational dynamics within the farming community. The youngest member, at 25 years old, has taken over the role from his parents, continuing the family tradition of farming. This succession reflects the ongoing generational transfer of agricultural responsibilities. Conversely, the oldest member, at 82 years old, faces significant challenges in maintaining his farming activities. Compared to six years ago, his capacity to work has diminished considerably, necessitating more assistance to manage his farm. This increased dependency is compounded by the rising initial capital required for each farming season, particularly the costs associated with hiring labor.

Table 4. 3 The Age Profile of Beneficiaries for Perception Survey

Age Range	Number of Persons
25 - 34	10
35 - 44	15
45 - 54	26
55 - 64	20
65 - 74	10
75 - 84	3

Source: author's data

Within the age groups, 25 members are between 25 and 44 years old, representing the younger segment who are more likely to be successors and potentially more adaptable to new farming practices. The majority, 46 members, fall within the 45 to 64-year-old range. This group is likely the backbone of the farming operations, possessing substantial experience but also starting to face the physical limitations associated with aging. Lastly, 13 members are 65 years and older, and they typically require additional support due to the physical demands of farming. The average age of the PP Gapsera members surveyed is 50 years old, and all of them came from poor families. This demographic profile underscores the importance of intergenerational support systems and the need for strategies to assist older farmers while integrating younger members into the farming community to ensure sustainable agricultural practices.

4.2.1.2 The Education Backgrounds

The educational background of these members varies significantly. Among the surveyed farmer, only 2 people, representing 2% of the total, have obtained a diploma or bachelor's degree. A larger segment, comprising 19 people or 22.6% of the total, has completed high school. Those with a middle high school education make up 32% of the group, totaling 27 people. The majority of the members, 36 people or 42.8%, have only completed elementary school.

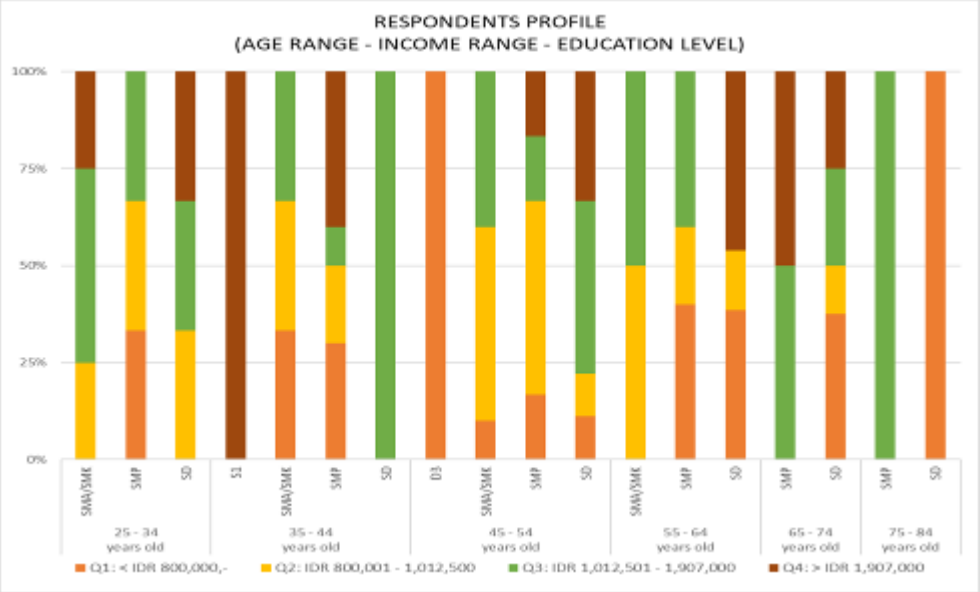
This demographic and educational profile highlights the challenges faced by the group, as limited education among an older farmer can impact their ability to adopt new agricultural techniques, manage finances effectively, and navigate the socio-economic hurdles necessary to break out of poverty.

Table 4. 4 The Education Profile of Beneficiaries for Perception Survey

Education Level	Number of Persons
S1	1
D3	1
SMA/SMK	19
SMP	27
SD	36

Source: author's data

Figure 4. 2 Cross tabulation of respondent's profile by the time survey is taken



Source: author's data

4.2.2 The Perception Survey

4.2.2.1 Items Reliability

The survey conducted aimed to explore the targeted subjects' perceptions regarding their situation in relation to four key variables: financial inclusion, financial literacy, productivity, and the Zakat Empowerment Program (BSI Village Intervention). We measured each variable using a set of specific indicators.

Table 4. 5 Items Reliability (SPSS processing)

Variables	Cronbach's Alpha	N items	Result
All Variables	0.963	61	Reliable
Productivity (P)	0.871	8	Reliable
Financial Literacy (FL)	0.929	20	Reliable
Financial Inclusion (FI)	0.855	12	Reliable
Zakat Empowerment Program (ZEP)	0.945	21	Reliable

Source: author's data

For Financial Inclusion, the indicators included access to bank accounts or financial institutions, access to financial assistance, access to financial products, participation in savings or investment programs, use of financial services, and use of technology. Financial Literacy was assessed through indicators such as investment perception, reading and interpreting financial information,

understanding basic financial concepts and products, financial decision-making, budget management, debt management, financial planning, behavioral finance, and insurance coverage. Productivity was measured by indicators like the duration of land work, sales price of harvested produce (Rp/ton), amount of investment capital, and harvest volume (Wet Grain Tons/Ha). Lastly, the Zakat Empowerment Program was evaluated through indicators like group facilitation and assistance, and increasing production capacity, product, and market development.

To capture the perceptions related to these variables, a comprehensive questionnaire consisting of 61 items was developed using a Likert scale format. This approach allowed respondents to express their level of agreement or disagreement with each item, providing a nuanced understanding of their perspectives.

The reliability of these items was assessed using SPSS, specifically through the calculation of Cronbach's Alpha. The results indicated that all items were reliable, as the Cronbach's Alpha for each item, if deleted, remained above 0.9. This high level of internal consistency suggests that the items within each variable are highly correlated and effectively measure the underlying constructs.

The survey items demonstrated excellent reliability, reinforcing the validity of the measures used to explore Financial Inclusion, Financial Literacy, Productivity, and the Zakat Empowerment Program. The robust Cronbach's Alpha values indicate that the questionnaire is a dependable tool for assessing the targeted subjects' perceptions, providing a solid foundation for subsequent analysis and interpretation of the data.

4.2.2.7 Correlation among all variables

All variables are found significantly correlated with each other. There is a positive correlation of 0.53 between the perception of financial inclusion (FI) and financial literacy (FL) among beneficiaries of BSI Village suggest that the more literate in finance the persons, the more beneficial the financial inclusion among them. The positive correlation between financial inclusion (FI) and productivity (P) of 0.398 implies that beneficiaries are more likely to embrace financial inclusion when their perception on their productivity is increasing. Moreover, a positive correlation between financial literacy (FL) and productivity (P) of 0.292 quantifies that the financial literacy of the beneficiaries has a direct relationship with their productivity.

The zakat empowerment program is having positive correlation with all dependent variables, this suggests that if the intervention from zakat empowerment program increases, the financial literacy, financial inclusion and productivity of the beneficiaries also tend to increase.

Table 4. 6 All Variables Correlation (generated by SPSS)

Variables		FI	FL	P	ZEP
FI	Pearson Correlation	**1**	**.530****	**.398****	**.509****
	Sig. (2-tailed)		0.000	0.000	0.000
	N	78	78	78	78
FL	Pearson Correlation	.530**	1	**.292****	**.738****
	Sig. (2-tailed)	0.000		0.009	0.000
	N	78	78	78	78
P	Pearson Correlation	.398**	.292**	1	**.436****
	Sig. (2-tailed)	0.000	0.009		0.000
	N	78	78	78	78
ZEP	Pearson Correlation	.509**	.738**	.436**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	78	78	78	78
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: author's data processing with SPSS

4.2.2.8 Cross Sectional Regression

Table 4. 7 Linear Regression without Controlling Variables

Dependent Variables		unstandardized coefficient for ZEP		R	R^2	Adjusted R^2
		C	β			
FL	value	12.759	0.639	0.738	0.544	0.538
	P-value	0.009	0.000			
	t score	2.678	9.530			
FI	value	20.749	0.245	0.509	0.259	0.249
	P-value	0.000	0.000			
	t score	6.139	5.156			
P	value	13.390	0.175	0.436	0.19	0.18
	P-value	0.000	0.000			
	t score	4.742	4.225			
P-value is significant at the 0.05 level (2 tailed)						

Source: author's data processing with SPSS

Table 4. 8 Linear Regression with Age, Education Background and Income Growth as Controlling Variables

Dependent Variables		C	standardized coefficient				R	R^2	Adj. R^2
			β ZEP	β Age	β Edu	β IG			
FL	value	10.119	0.752	-0.051	0.171	0.006	0.764	0.583	0.56
	P-value	0.167	**0.000**	0.549	**0.048**	0.937			
	t score	1.394	9.771	-0.602	2.007	0.079			
FI	value	13.973	0.542	0.093	0.258	-0.036	0.563	0.317	0.28
	P-value	0.009	**0.000**	0.393	**0.021**	0.718			
	t score	2.703	5.502	0.859	2.363	-0.363			
P	value	10.223	0.425	0.163	0.021	0.096	0.47	0.221	0.178
	P-value	0.029	**0.000**	0.164	0.860	0.370			
	t score	2.227	4.037	1.407	0.177	0.902			
P-value is significant at the 0.05 level (2 tailed)									

Source: author's data processing with SPSS

The influence of Zakat Empowerment Program to Productivity of the beneficiaries in the BSI Village program

According to table 4.2.2.8.1. the R square returns to 0.19, means this model is only explaining 19% of the targeted group's perception, with both of constant and the β ZEP coefficient are significant (p value < 0.05). The model without controlling variables is presented below:

$$P = 13.39 + 0.175\,ZEP \qquad \text{(eq 4.1)}$$

In addition to controlling variables as presented in table 4.2.2.8.2., the R square equal to 0.221, this indicates an improvement over the first model by explaining 22.1% of the variance in the beneficiaries' perception on the influence of zakat empowerment program to their productivity. The model with this improvement is presented below:

$$P = 10.223 + 0.425\,ZEP + 0.163\,Age + 0.021\,Edu + 0.096\,IG \qquad \text{(eq 4.2)}$$

Even though the significant p value under 0.05 only appears for the ZEP coefficient, but this model gave the higher standardized coefficient for ZEP, means the use of controlling variables is stabilizing the coefficient of zakat empowerment program and proof the H1 as the zakat empowerment program is influential to productivity.

This model tests the relationship between the variables of the Zakat empowerment program—age of beneficiaries, educational background of beneficiaries, and income growth of beneficiaries during the program—and their productivity. From the regression process, significant results were obtained from

the ZEP variable towards productivity, meaning that group facilitating and assistance, and the increasing production capacity, product, and market development processes were believed by beneficiaries to increase the amount of productivity by 0.425 units as measured by the volume of harvest in tons, selling price of grain and rice in rupiah, farming capital ratio, and duration of land work.

This study suspected that there was multicollinearity between variables; evidenced by the low R square figure of 0.221, and of the four independent variables, only one was significant. Three controlling variables were not significant to productivity, namely age, educational background, and income growth of beneficiaries. In theory, the more optimal the age, the more it will affect the level of productivity, considering the range of demographic profiles of beneficiaries dominated by productive age, so that it did not produce significant variations. The influence of educational background on productivity can be significant in the managerial ability of land management, but the homogeneity of the process of producing the rice commodity also did not indicate specific needs for the level of education. Most beneficiaries manage land in the same amount of area as their main source of income, so variations in income did not affect productivity.

The influence of Zakat Empowerment Program to Financial Literacy of the beneficiaries in the BSI Village program

According to table 4.2.2.8.1. the R square returns to 0.544, which is explaining 54.4% of the targeted group's perception, with both of constant and the ZEP coefficient are significant. The model is presented below:

$$FL = 12.759 + 0.639\ ZEP \qquad \text{(eq 4.3)}$$

In addition to controlling variables as presented in table 4.2.2.8.2., the R square equal to 0.583, this indicates an improvement over the first model by explaining 58.3% of the variance in the beneficiaries' perception on the influence of zakat empowerment program to their apprehension on financial literacy. The model with this improvement is presented below:

$$FL = 10.119 + 0.752\ ZEP - 0.051\ Age + 0.171\ Edu + 0.006\ IG \quad \text{(eq 4.4)}$$

Even though the significant p value under 0.05 only appears for the ZEP and Education coefficients, but this model gave the higher standardized coefficient for ZEP, means the use of controlling variables is stabilizing the

coefficient of zakat empowerment program and proof the H2 as the zakat empowerment program is influential to financial literacy.

This model tests the relationship between the variables of the Zakat empowerment program—age of beneficiaries, educational background of beneficiaries, and income growth of beneficiaries during the program—and their financial literacy. From the regression process, significant results were obtained from the ZEP variable towards financial literacy, meaning that every unit of progress in group facilitating and assistance, and the increasing production capacity, product, and market development processes were believed by beneficiaries to increase the amount of financial literacy by 0.752 units assumed another variables were constant, as measured by their investment perception, skills in reading and interpreting financial information, understanding basic financial concepts and products, understanding of financial products, financial decision making, budget management, debt management, financial planning, behavior toward money and insurance coverage.

From three controlling variables, two were not significant to financial literacy, namely age and income growth of beneficiaries. In theory, the more optimal the age, the more it will affect the level of financial literacy, considering the range of demographic profiles of beneficiaries dominated by productive age, so that it did not produce significant variations. The income growth did not spread widely in variations, gave no significant different to the financial literacy.

The influence of educational background on financial literacy surely significant, every improvement in one higher education level, the more literate the beneficiaries to financial literacy by 0.171 units, assuming another variables were constant, as measured by their investment perception, skills in reading and interpreting financial information, understanding basic financial concepts and products, understanding of financial products, financial decision making, budget management, debt management, financial planning, behavior toward money and insurance coverage.

The influence of Zakat Empowerment Program to Financial Inclusion of the beneficiaries in the BSI Village program

According to table 4.2.2.8.1. the R square returns to 0.259, which explaining 25.9% of the targeted group's perception with both of constant and the ZEP coefficient are significant. The model is presented below:

$$FI = 20.749 + 0.245\ ZEP \quad \text{(eq 4.5)}$$

In addition to controlling variables as presented in table 4.2.2.8.2., the R square equal to 0.317, this indicates an improvement over the first model by explaining 31.7% of the variance in the beneficiaries' perception on the influence of zakat empowerment program to their experiences on financial inclusion. The model with this improvement is presented below:

$$FI = 13.973 + 0.542\ ZEP + 0.093\ Age + 0.258\ Edu - 0.036\ IG \quad \text{(eq 4.6)}$$

Even though the significant p value under 0.05 only appears for the ZEP and Education coefficients, but this model gave the higher standardized coefficient for ZEP, means the use of controlling variables is stabilizing the coefficient of zakat empowerment program and proof the H3 as the zakat empowerment program is influential to financial inclusion.

This model tests the relationship between the variables of the Zakat empowerment program—age of beneficiaries, educational background of beneficiaries, and income growth of beneficiaries during the program—and their financial inclusion. From the regression process, significant results were obtained from the ZEP variable towards financial inclusion, meaning every unit of progress in group facilitating and assistance, and the increasing production capacity, product, and market development processes were believed by beneficiaries to increase the level of financial inclusion by 0.542 units, assumed all other variables were constant, as measured by access to bank accounts or financial institutions, access to financial assistance, access to financial products, participation in a savings or investment program, use of financial services and use of technology.

This study suspected that there was multicollinearity between variables; evidenced by the low R square figure of 0.317, and of the four independent variables, only two were significant. Two controlling variables were not significant to productivity, namely age and income growth of beneficiaries. In theory, the more optimal the age, the more it will affect the level of financial inclusion, considering the range of demographic profiles of beneficiaries dominated by productive age, so that it did not produce significant variations. Most beneficiaries manage land in the same amount of area as their main source of income, so variations income growth did not give significant differences.

The influence of educational background on financial inclusion was significant, every improvement in one higher education level, the more ease beneficiaries to financial inclusion by 0.258 units, assuming all other variables were constant, as measured by access to bank accounts or financial institutions, access to financial assistance, access to financial products, participation in a savings or investment program, use of financial services and use of technology.

4.3 Focused Group Discussion (FGD) and Interview Result

This research involved 11 resource persons as FGD and interview participants. Due to technical limitations, FGD was conducted only with 4 beneficiaries while 2 others individually interviewed. Depth interviews were also conducted with 2 experts from BSI Maslahat and 3 stakeholders from PP Gapsera. In this focused group discussion and interview, the BSI Village as a program was explored and defined by its implementation from 2019 to 2023 with all stakeholders. The nine elements from Hill & Warfield system are used within current perspective and experiences.

4.3.1 The societal sectors affected

According to table 4.3.1., BSI Village has effects on societal factors in Rejoasri, these factors are listed based on chronological order of the discussion among participants. Most of participants were mentioning the agricultural sector at first and followed by social sector which were getting more affirmation from others. The financial/financing sector were late to be discussed since the benefit might perceived as routines for planting season.

Table 4. 9 The Societal Sector affected by BSI Village according to Participants

No.	Sub Elements	Description	Participant's Code
1	Agricultural Sector	As a transmigration area, the residents are all farmers. Conventional farming has caused soil quality to decline, the presence of BSI villages which bring pesticide-free farming methods has made this sector healthier, and the selling price of grain from program	1,2,3,4

No.	Sub Elements	Description	Participant's Code
		participating farmers is higher.	
2	Social Sector	BSI villages provide opportunities for the establishment of group businesses through which social service efforts such as free ambulances and community rice barns can develop.	1,3,4,6,7,8
3	Education Sector	Simultaneously with the running of the BSI village, the implementation of the BSI Maslahat scholarship program was also carried out at the same location. PP Gapsera is a service channel as well as coaching scholarship awardee	4,6
4	Financial/Financing Sector	Apart from every planting season farming capital is always available for Gapsera members, the presence of the BSI village also opens up opportunities for residents to access and communicate with other financing products from BSI Bank.	3,4,6
5	Religious & Spirituality Aspects	The reality of Gapsera members who need to learn the Qur'an is captured by BSI Maslahat with a da'wah program, namely facilities for learning to read the Qur'an for adults and the elderly.	7,8

Source: author's data

4.3.2. The Need Of The Program

All participants mentioned how PP Gapsera as the local institutions for BSI Village program, bought harvests at a grain price that was higher than the

average market price; the need for guaranteed profits on the harvest crops was the main concern. Following this need, as shown in table 4.3.2. there was a demand for farming capital accessibility and the availability of workable farming areas.

Table 4. 10 The need of the program (BSI Village) according to participants

No.	Sub Elements	Description	Participant's Code
1	Higher (Profitable) Sales Price of Grain/Rice	Farmers do not have control over the price of their agricultural products, BSI villages through PP Gapsera provide a yield protection mechanism which ensures that all grain produced by members is purchased at a good price.	All
2	Farming Capital Accessibility	The planting and harvest cycle causes farmers to receive large amounts of money at one time and have to manage it for several months later. Most poor farmers are trapped in this cycle and then have difficulty getting capital when planting next season. PP Gapsera ensures that farmers can get the capital they need on time.	4,5,6,7,8,9,10,11
3	Availability of Workable Farming Area	the low quality of land, and the reality of area reduction due to inheritance of land from generation to generation, causes farmers to lose adequate agricultural land. At the start of the program, it was ensured that the land was available on lease and then through improvements in planting methods, the quality of the land gradually improved.	1,3,4

Source: author's data

4.3.3. Major constraints

When asked about major constraints, according to table 4.3.3., several actors' points of view emerged and became a common concern. Of these 5 constraints, two of them were from the farmer's point of view, and the remaining three were predominantly from the viewpoint of PP Gapsera management.

Table 4. 11 Major constraints for BSI Village according to participants

No.	Sub Elements	Description	Participant's Code
1	On Farming Capital Accessibility	Both the first and second years of the program provided capital for Gapsera members' farming, but after that, a number of financial flow issues arose, necessitating a rationalization of the certainty of planting capital for members based on actual field needs.	3,4,5
2	Off Farming Capital Accessibility	With healthier planting methods, the rice product produced by PP Gapsera is premium rice, but for the first few years the right market segment was not found, so capital turnover was hampered. When capital injection was needed to keep the rice mill running, suitable financing products were not yet available.	3,4,5
3	Off Farm Markets	The economic level around the location is lower middle class, while premium products from PP Gapsera require the upper middle segment.	3,4
4	Farmer Commitments	In 2021, approximately 20 Gapsera members resigned due to various circumstances. Competition in the off-taker market also means that some members sell their crops to others besides Gapsera.	4,5,6
5	Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability	The consequences of healthy agriculture that is free of pesticides do not always make things easy for farmers. The outbreak then caused farmers to return to using chemical pesticides. The irrigation issue decided by the governor also causes farmers to have a limited planting period. On the other hand, fertilizer and seed prices are susceptible to rising during the planting season.	1,6,7,8,9,10,11

Source: author's data

4.3.4. The alterable which could be altered

All opinions regarding the alterable that could be altered were within BSI Maslahat's capacity as the owner and initiator of the program; this context was mostly the aspiration of PP Gapsera's management, which, after experiencing program termination in 2022, encountered several of the constraints mentioned above. Meanwhile, as shown in table 4.3.4., from BSI Maslahat's perspective, matters related to non-technical assistance are the main concern for change and development.

Table 4. 12 The alterable which could be altered for BSI Village according to participants

No	Sub Elements	Description	Participant's Code
1	The use of Zakat Fund	Substantively, when all parties know that the funds used come from zakat funds, the ownership of which was transferred from the muzakki to 100 mustahik people, then the parties involved become more careful and ensure that the funds are truly useful/beneficial.	3,4,5
2	The use of another Fund	It is very possible for the continuation of this program to receive grant funds, CSR or other social funds, but this will have a different impact on program executors. These social funds may only be used for things that are oriented towards short-term accountability.	3,4,5
3	Non-Technical Assistance	Trust and good relations between Gapsera members and their administrators are important social assets. So non-technical assistance in the form of team building, leadership and developing a sense of family is important.	1,2,4
4	Exit Strategy from BSI Maslahat	The fact that BSI Maslahat terminated the program in early 2022 resulted in several significant changes in the atmosphere of BSI village implementation thereafter.	3,4,5

No	Sub Elements	Description	Participant's Code
5	The engagement of Local Institution	At the start of the program, PP Gapsera received resistance from residents and the local government because it was considered different from existing norms. Over time this perception changes.	3,4,9,10,11

Source: author's data

4.3.5. The objectives of the program

Table 4. 13 The Objectives of BSI Village According To Participants

No.	Sub Elements	Description	Participant's Code
1	Improve farmer's income (profitability of farming)	During the 6 years of the program, these farmers can be assured of continuing to earn income sufficient to meet their daily needs. This cannot be separated from the existence of PP Gapsera which ensures the purchase of agricultural products and various other services. Farmers earn income from at least 3 types of business: selling grain, cash for work at the rice mill and profit sharing at the end of the business year.	All participants
2	Sustained the benefit of zakat funds being used	The main target of BSI villages is 100 poor farmer families, who receive zakat rights of IDR 25 million per family. If this were used personally directly by farmers, perhaps the benefits would not last until today. By changing	All participants

No.	Sub Elements	Description	Participant's Code
		fund assets into business assets, the benefits of zakat funds are proven to continue continuously with growing beneficiaries.	
3	Helping the farmer improving quality of their life	The reality is that farmers in Indonesia are a weak group who do not control both their land and products. This situation causes agriculture to tend toward becoming a political commodity. Existing farmer groups are often not strong enough to maintain the stability of farmer businesses. BSI Village is an alternative approach to helping poor farmers' lives improve.	3,4,5

Source: author's data

Village emerged from all participants, mainly for two things: increasing the income of farmers who are the beneficiaries and how to ensure that the benefits of the zakat funds that have been mandated can flow continuously. Meanwhile, from PP Gapsera's perspective, helping farmers is an objective that cannot be neglected. The complete explanation of each objective can be seen in the table 4.3.5. below:

4.3.6. The objectives measure to evaluate each objective

Some simple measures used by participants to assess the achievement of BSI Village goals can be seen in the following table. In general, as detailed in table 4.3.6., this measurement was imposed on beneficiaries based on five situations, which are sequential cycles starting from the planting period, harvesting, and continuing up to a full year for the timing of the distribution of profit results from PP Gapsera's business activities.

Table 4. 14 The Objectives Measure To Evaluate Each Objective Of BSI Village According To Participants

No.	Sub Elements	Description	Participant's Code
1	Access to Financing Products	In 2018, before the program was implemented, the situation for poor farmers was quite difficult to maintain agricultural sustainability and they were vulnerable to being trapped by predatory practices of middlemen. Once there is a BSI village, everyone can be assured of being able to start planting on time with easy access to financing for planting needs.	3,4,7,8,9
2	Harvest Volume	The goal of adopting healthy farming methods is to improve the soil's quality, leading to an increase in rice clumps and maximizing the number of grains for harvesting. Every 0.25 hectares of land yields an average of 1500 kg of wet grain. This figure is considered satisfactory enough.	3,4,5
3	Debt Management	The predatory practices of middlemen entrapped poor farmer families into a vicious cycle of debt. This program breaks the cycle by applying shariah principles to the financing approach from PP Gapsera, resulting in a more accountable approach.	3,4,5
4	Distribution of the group business profit portion in accordance with the established objective	PP Gapsera's establishment incorporated shariah principles of profit sharing among all shareholders. The shares are composed of 30% for capital improvement, 30% for all shareholders, 30% for management, and 10% for social funds to be distributed by some dedicated program.	3,5

Source: author's data

4.3.7. The activities needed for the action plan

Discussions about the activities needed for the action plan were only raised in the participant segment of BSI Maslahat and PP Gapsera, who were the main

actors controlling the program. All of these activities, as seen in the following table 4.3.7., are the responsibility of PP Gapsera.

Table 4. 15 The Activities Needed For The Action Plan Of BSI Village According To Participants

No.	Sub Elements	Description	Participant's Code
1	sustaining the establishment of local institutions as the instrument for intervention	After the termination from BSI Maslahat, PP Gapsera needs to improve their organizational management and legal standing to be able to handle the complexity of entrepreneurial targets while maintaining their social responsibility towards shareholders.	1,2
2	securing the working capital for rice mill operations	Given the critical nature of the working capital for the rice mill operation and the current shareholder's lack of business acumen, PP Gapsera will opt for progressive financing support from Bank BSI.	3,5
3	strengthening the premium market	The distribution chain is crucial to securing demand from the premium market. Some innovation in the marketing and selling system is inevitable.	3,4

Source: author's data

4.3.8. The Activity Measures To Evaluate The Results Achieved From Each Activity

Most participants did not recognize the need for activity measures to evaluate the results achieved from each activity in the BSI Village; there were only three participants who came up with this urgency. These activities in Table 4.3.8. were perceived as necessary for the purpose of determining whether the objectives have been met, according to a few participants.

Table 4. 16 The activity measures to evaluate the results achieved from each activity of BSI Village according to participants

No.	Sub Elements	Description	Participant's Code
1	Regular group meetings	The management of PP Gapsera came to the realization that regular communication with all shareholders was necessary to foster trust and reduce the risk of breaking commitments.	4
2	Monitoring and evaluation of the rice mill business and farmer's income	Gapsera has not yet acknowledged the importance of monitoring and evaluation. Gapsera conducted monitoring and evaluation until 2021 with supervision from BSI Maslahat, but no specific activity followed thereafter.	1,2
3	Impact evaluation	In this BSI Village executor recently, there is no capacity to do an impact evaluation within the existing dynamic. This activity can only be done by command from BSI Maslahat.	1,2

Source: author's data

4.3.9. The agencies involved in execution of the program

The following table 4.3.9. provides a list of agencies or stakeholders that were involved in the execution of BSI Village since 2018. Below are their descriptions:

Table 4. 17 The Agencies Involved In Execution Of BSI Village According To Participants

No.	Sub Elements	Description	Participant's Code
1	Managers of PP Gapsera as the local institution	3 Persons as Chairman, Secretary and Finance	All participants
2	Management and Facilitator from the BSI Maslahat	Team management and one person for facilitating role directly under BSI Maslahat	1,2,3,4
3	Group Coordinator of PP Gapsera	one person per sub-village group, total 7 persons	3,4
4	Member of PP Gapsera	80 active members	All participants
5	Government ruling the irigation	governor and public works services	3,6,7
6	Partners (supplier non-member) of PP	approximately 25 families (non-shareholders)	3,4

No.	Sub Elements	Description	Participant's Code
	Gapsera		
7	Buyer/Reseller of PP Gapsera	marketing, selling and distribution partners	3,4,5

Source: author's data

4.4 Interpretive Structural Modelling (ISM) Results

From the FGD and interview results, we have already extracted nine elements, followed by each sub-element of BSI Village as presented in the table below:

Table 4. 18 The Elements of BSI Village program

Elements	Sub Elements
A. The societal sectors affected	1. Agricultural Sector 2. Social Sector 3. Education Sector 4. Financial/Financing Sector 5. Religious & Spirituality Aspects
B. The need of the program	1. Higher (Profitable) Sales Price of Grain/Rice 2. Farming Capital Accessibility 3. Availability of Workable Farming Area
C. Major constraints	1. On Farming Capital Accessibility 2. Off Farming Capital Accessibility 3. Off Farm Markets 4. Farmer Commitments 5. Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability
D. The alterable which could be altered	1. The use of Zakat Fund 2. The use of another Fund 3. Non-Technical Assistance 4. Exit Strategy from BSI Maslahat 5. The engagement of Local Institution
E. The objectives of the program	1. Improve farmer's income (profitability of farming) 2. Sustained the benefit of zakat funds being used 3. Helping the farmer improving quality of their life
F. The objectives measure to evaluate each objective	1. Access to Financing Products 2. Harvest Volume 3. Debt Management 4. Distribution of the group business profit portion in accordance with the established objective
G. The activities needed for the action plan	1. sustaining the establishment of local institutions as the instrument for intervention 2. securing the working capital for rice mill operations 3. strengthening the premium market
H. The activity measures to evaluate the results achieved from each activity	1. Regular group meetings 2. Monitoring and evaluation of the rice mill business and farmer's income 3. Impact evaluation
I. The agencies involved in execution of the program	1. Managers of PP Gapsera as the local institution 2. Facilitator from the BSI Maslahat 3. Group Coordinator of PP Gapsera 4. Member of PP Gapsera 5. Government ruling the irrigation 6. Partners (supplier non-member) of PP Gapsera 7. Buyer/Reseller of PP Gapsera

Source: author's data & analysis

The ISM analysis was designed to deal with the complexity of elements; by number, it should be 4 sub-elements and up. Based on the findings above, we only proceed with these elements below:

1. The societal sectors affected (5 sub-elements)
2. Major constraints (5 sub-elements)
3. The alterable which could be altered (5 sub-elements)
4. The objectives measure to evaluate each objective (4 sub-elements)
5. The agencies involved in the execution of the program (7 sub-elements)

The ISM analysis flow is used to process each element, which creates a structural self-interaction matrix (initial and final), a reachability matrix, and canonical matrix. These are then shown in the power-dependence quadrant along with the digraph-level diagram.

4.4.1 The Societal Sectors Affected in BSI Village

4.4.1.1 SSIM of The Societal Sectors Affected in BSI Village

To create the initial structural self-interaction matrix, we asked experts to fill out the VAXO matrix. The pair-wise comparisons are made between sub-elements, and suppose the sub-elements in the column are (i) and the sub-elements in the top row are (j). By avoiding double pairs, each was defined by an influential relationship. V means the sub-elements (i) are influential on the sub-elements (j), but the sub-elements (j) don't have any influence on the sub-elements (i). A means sub-elements (j) are influential on sub-elements (i), but the sub-elements (i) don't have any influence on (j). X means both sub-elements (i) and (j) are influential to each other, and O means both sub-elements (i) and (j) are not influential to each other or have no relationship (Saxena & Vrat, 1992).

Based on five expert's rating and using the ISM Professional application, below are the results of initial structural self-interaction matrix (SSIM):

Table 4. 19 The Contextual Relationship between sub-elements (pair-wised) in the societal sectors affected by BSI Village

(i,j)	Sub Elements	A1	A2	A3	A4	A5
A1	Agricultural Sector		V	X	X	A
A2	Social Sector			X	A	X
A3	Education Sector				A	X
A4	Financial/Financing Sector					O
A5	Religious & Spirituality Aspects					

Source: author's data processed by ISM Professional apps

The agricultural sector is influential on the social sector, but the social sector is not influential on agriculture while being mutually influential with education and religious and spiritual aspects in BSI Village. The agricultural sector is mutually influential with the financial/financing sector, while the financing sector has no relationship to the religious and spirituality sectors. Religion and spirituality also impact agriculture, but they do not reciprocate the influence. Social and education are influenced by the financial/financial sector, but they don't influence it back. Social, education, religious and spirituality are influential to each other. Checking the consistency of the matrix above produces a correction for the relationship between the financial/financing sector and religious and spirituality aspects. As agreed, social, education, religion and spirituality are influential to each other. While the financial/financing sector has an influence on social and education, the financial/financing sector should also influence religious and spirituality aspects. Thus, the final SSIM is obtained as follows:

Table 4. 20 The Structural Self-Interaction Matrix of the societal sectors affected by BSI Village

(i,j)	Sub Elements	A1	A2	A3	A4	A5
A1	Agricultural Sector	NA	V	X	X	A
A2	Social Sector	NA	NA	X	A	X
A3	Education Sector	NA	NA	NA	A	X
A4	Financial/Financing Sector	NA	NA	NA	NA	V
A5	Religious & Spirituality Aspects	NA	NA	NA	NA	NA

Source: author's data processed by ISM Professional apps

4.4.1.2. The Reachability Matrix Within Canonical Matrix Of The Societal Sectors Affected

Reachability matrix is a binary matrix to explain whether element (i) can reach element (j) directly, indirectly or no path at all. The matrix below represents the final direct and indirect relationships between each sub-elements, where 1 indicates a direct or indirect path from (i) to (j), while 0 indicates no path from (i) to (j).

According to figure 4.4.1.2.1. the agricultural sector and financial/financing could reach all other sector directly or indirectly. Meanwhile the social sector has no path to reach agricultural sector and financial/financing sector, it has relationship with educational sector, religious and spirituality aspects.

Furthermore, religious and spirituality aspects could reach all other sector, except for the financing/financial sector.

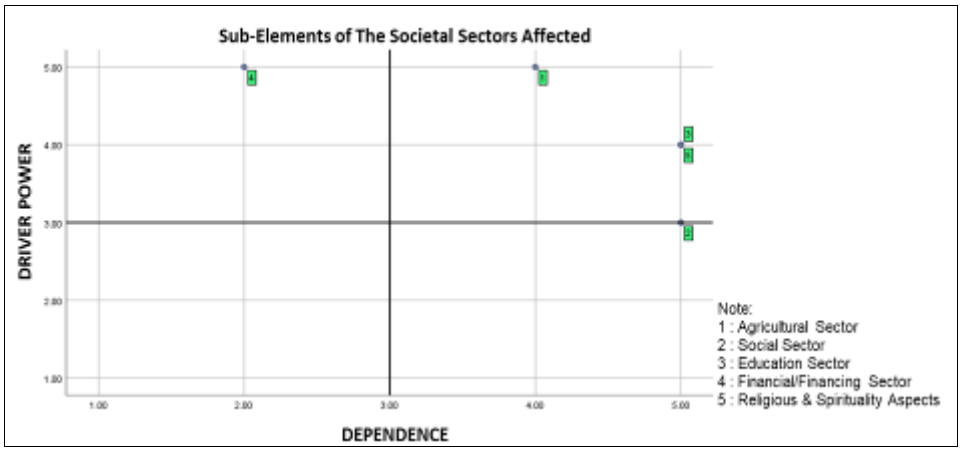
Table 4. 21 The Canonical Matrix of the societal sectors affected by BSI Village

(i,j)	A1	A2	A3	A4	A5	Driver Power	Level	Dependence	Hierarchy
A1	1	1	1	1	1	5	1	4	2
A2	0	1	1	0	1	3	3	5	1
A3	1	1	1	0	1	4	2	5	1
A4	1	1	1	1	1	5	1	2	3
A5	1	1	1	0	1	4	2	5	1

Source: author's data processed by ISM Professional apps

From the reachability matrix, there is a calculation resulting Driver Power and the Dependence value. The Driver Power value is calculated from all the horizontal (row) sum of each sub-elements and The Dependence value is obtained from all the vertical (column) sum of each sub-elements. Therefore, the Power-Dependence Quadrant of the societal sectors affected can be derived from figure 4.4.1.2.1. above by plotting the value of Driver Power and Dependence column in the quadrant as shown in figure below:

Figure 4. 3 The Quadrant of Power-Dependence from the sub-elements of the societal sectors affected by BSI Village



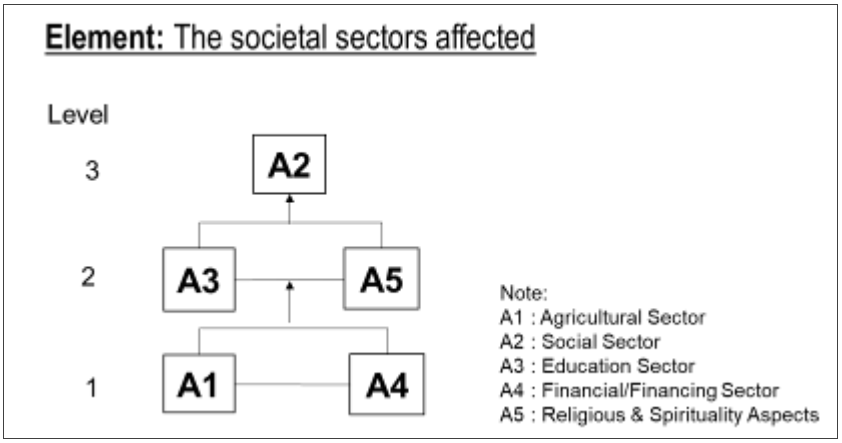
Source: author's data processed by ISM Professional apps

According to figure 4.4.1.2.2. above, it creates quadrant divided into four categories. The first category is "autonomous" for low driver power and low dependence. The second category is "dependent" where the sub-elements have the low driver power and high dependence. The third one is "linkage", for sub-elements with high driver power and high dependence. Finally, the fourth category is "independent/driving" where the sub-elements are categorized as high

driver power and low dependence. The financial/financing sector is the only sub-element in independent/driving category, it has high influence over others but isn't influenced much. For the societal sector affected system of BSI Village, financial/financing is the key driving factor. On the other hand, the social sector is categorized as dependent for it served as the outcomes or effects in the BSI Village system. Social sector is highly influenced by others but has little influence itself.

The Digraph – Level Diagram of the societal sectors affected was derived from figure 4.4.1.2.1. above by illustrating the value on level column for the vertical structure and the value of hierarchy for the horizontal relationship. The digraph given is as shown in the picture 4.4.1.2.3 and can be seen that Agricultural sector and Financial/financing sector have the most driver power in the BSI Village system, followed by Education and Spirituality and Religious aspects.

Figure 4. 4 System structure from the elements of the societal sectors affected by BSI Village



Source: author's data processed by ISM Professional apps

4.4.2. Major Constraints in BSI Village

4.4.2.1. The Structural Self-Interaction Matrix (SSIM) of Major constraints

Based on five experts' ratings, below are the results of the initial structural self-interaction matrix (SSIM). On farming capital accessibility is influential on the off-farming capital accessibility and is influenced by off farm markets and land conditions, fertilizer prices, seed prices, pest outbreaks, and water availability. Off-farming capital accessibility has a mutual influence on both the off-farming market and farmer commitments. Land conditions, fertilizer prices,

seed prices, pest outbreaks, and water availability are all influential to all other sub-elements, and having mutual influence only with farmer commitments.

Table 4. 22 The contextual relationship between sub elements (pair-wised) of BSI Village Major Constraints

(i,j)	Sub Elements	C1	C2	C3	C4	C5
C1	On Farming Capital Accessibility		V	A	X	A
C2	Off Farming Capital Accessibility			X	X	A
C3	Off Farm Markets				X	A
C4	Farmer Commitments					X
C5	Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability					

Source: author's data processed by ISM Professional apps

Checking the consistency of the matrix above produces a correction for the relationship between on farming capital accessibility, off farming capital accessibility and off farms market. The relationship between off farming capital accessibility, off farms market and land conditions, fertilizer prices, seed prices, pest outbreaks and water availability, also changes. The final result can be seen in the figure 4.4.2.1.2. below.

Table 4. 23 The Structural Self-Interaction Matrix (SSIM) of BSI Village Major Constraints

(i,j)	Sub Elements	C1	C2	C3	C4	C5
C1	On Farming Capital Accessibility	NA	X	X	X	A
C2	Off Farming Capital Accessibility	NA	NA	V	X	X
C3	Off Farm Markets	NA	NA	NA	X	A
C4	Farmer Commitments	NA	NA	NA	NA	X
C5	Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability	NA	NA	NA	NA	NA

Source: author's data processed by ISM Professional apps

4.4.2.2. The Reachability Matrix within Canonical Matrix of Major constraints

According to figure 4.4.2.2.1. all of the sub-elements of major constraints can reach each other directly or indirectly, except for the off farms market has no path to off farming capital accessibility. This condition results a similar driver power and dependence for each sub-element.

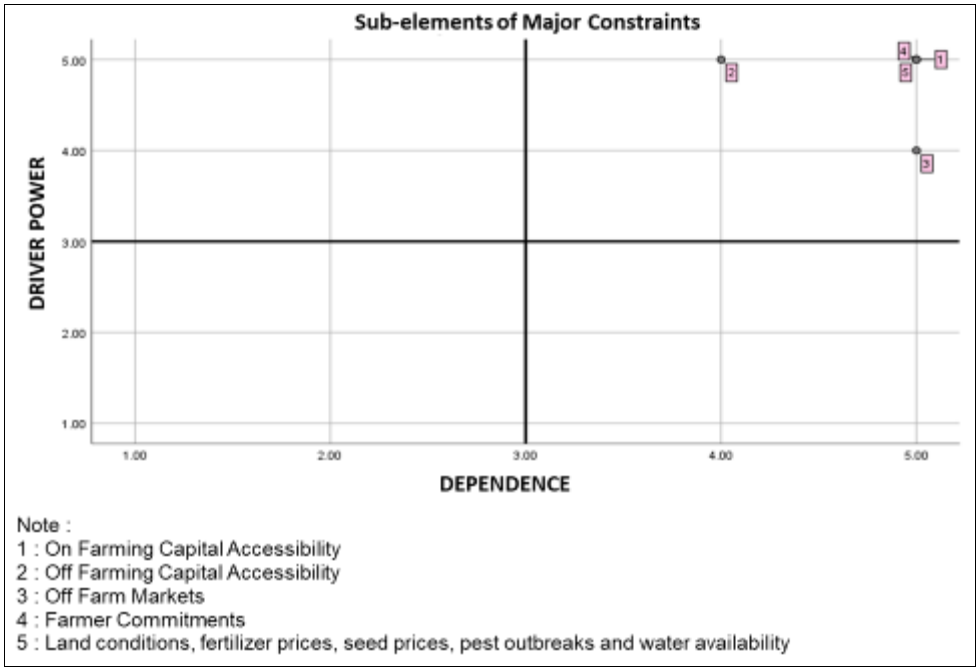
Table 4. 24 The Canonical Matrix of BSI Village Major Constraints

(i,j)	C1	C2	C3	C4	C 5	Driver Power	Level	Dependence	Hierarchy
C1	1	1	1	1	1	5	1	5	1
C2	1	1	1	1	1	5	1	4	2
C3	1	0	1	1	1	4	2	5	1
C4	1	1	1	1	1	5	1	5	1
C5	1	1	1	1	1	5	1	5	1

Source: author's data processed by ISM Professional apps

From the reachability matrix above, the Power-Dependence Quadrant of Major constraints categorized all sub-elements in the linkage quadrant as seen in the figure 4.4.2.2.2. below. On Farming Capital Accessibility, Off Farming Capital Accessibility, Off Farm Markets, Farmer Commitments, Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability, are categorized as high driver and high dependence with each other. The major constraints basically an element with high volatility and should be handled with utmost care.

Figure 4. 5 The Power-Dependence Quadrant of BSI Village Major Constraints

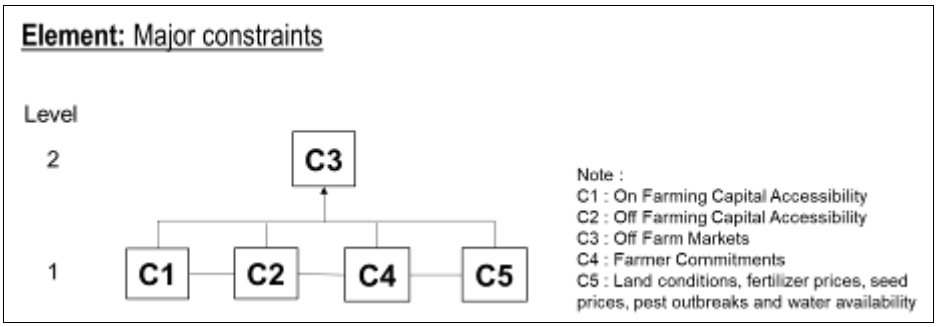


Source: author's data processed by ISM Professional apps

The Digraph – Level Diagram of Major constraints was derived from figure 4.4.2.2.1 and can be seen in the figure 4.4.2.2.3. the off-farming capital accessibility and farmer commitments have the most linkage to others. Thus, these two sub-elements should be prioritized when solving major constraints.

They are central to the major constraint system and played some critical role that might indirectly resolving other constraints.

Figure 4. 6 System Structure from BSI Village Major Constraints



Source: author's data processed by ISM Professional apps

4.4.3. The Alterable which could be altered in BSI Village

4.4.3.1 The Structural Self-Interaction Matrix (SSIM) Of The Alterable Which Could Be Altered

There are five alterable sub-elements which could be altered in BSI Village as shown in figure 4.4.3.1.1. and most of them have mutual influence to each other, they are the use of zakat fund, the use of another fund, non-technical assistance and exit strategy from BSI Maslahat. Moreover, exit strategy from BSI Maslahat also has mutual influence with the engagement of local institution. However, the initial experts' rating agree that the use of zakat fund has no relationship with the use of another fund and the engagement of local institution.

Table 4. 25 The contextual relationship between sub-elements (pair-wised) of the alterable which could be altered from BSI Village

(i,j)	Sub Elements	D1	D2	D3	D4	D5
D1	The use of Zakat Fund		O	V	X	O
D2	The use of another Fund			X	X	A
D3	Non-Technical Assistance				X	A
D4	Exit Strategy from BSI Maslahat					X
D5	The engagement of Local Institution					

Source: author's data processed by ISM Professional apps

Checking the consistency of the matrix above produces a correction for the relationship between the use of another fund with non-technical assistance and the engagement of local institution. The result of this consistency checks is

presented in the figure 4.4.3.1.2., where finally the use of another fund is influential to non-technical assistance but the non-technical assistance is not influencing back. In relation with the engagement of local institution, the interaction is also corrected, eventually the non-technical assistance is having mutual influence with it.

Table 4. 26 The Structural Self-Interaction Matrix (SSIM) of the alterable which could be altered from BSI Village

(i,j)	Sub Elements	D1	D2	D3	D4	D5
D1	The use of Zakat Fund	NA	O	V	X	O
D2	The use of another Fund	NA	NA	V	X	X
D3	Non-Technical Assistance	NA	NA	NA	X	X
D4	Exit Strategy from BSI Maslahat	NA	NA	NA	NA	X
D5	The engagement of Local Institution	NA	NA	NA	NA	NA

Source: author's data processed by ISM Professional apps

4.4.3.2. The Reachability Matrix Within Canonical Matrix Of The Alterable Which Could Be Altered

As presented in figure 4.4.3.2.1., the use of zakat fund and the use of another fund can reach non-technical assistance, exit strategy from BSI Maslahat, and the engagement of local institution directly or indirectly, but it has no path with each other. Subsequently, the non-technical assistance can reach exit strategy from BSI Maslahat and the engagement of local institution directly or indirectly but it has no path to the use of both zakat and another fund. For the engagement of local institution, it can reach all other sub-elements except the use of zakat fund. Meanwhile, the exit Strategy from BSI Maslahat is the only sub-element of the alterable which could be altered from BSI Village that can reach all other sub-elements directly and indirectly.

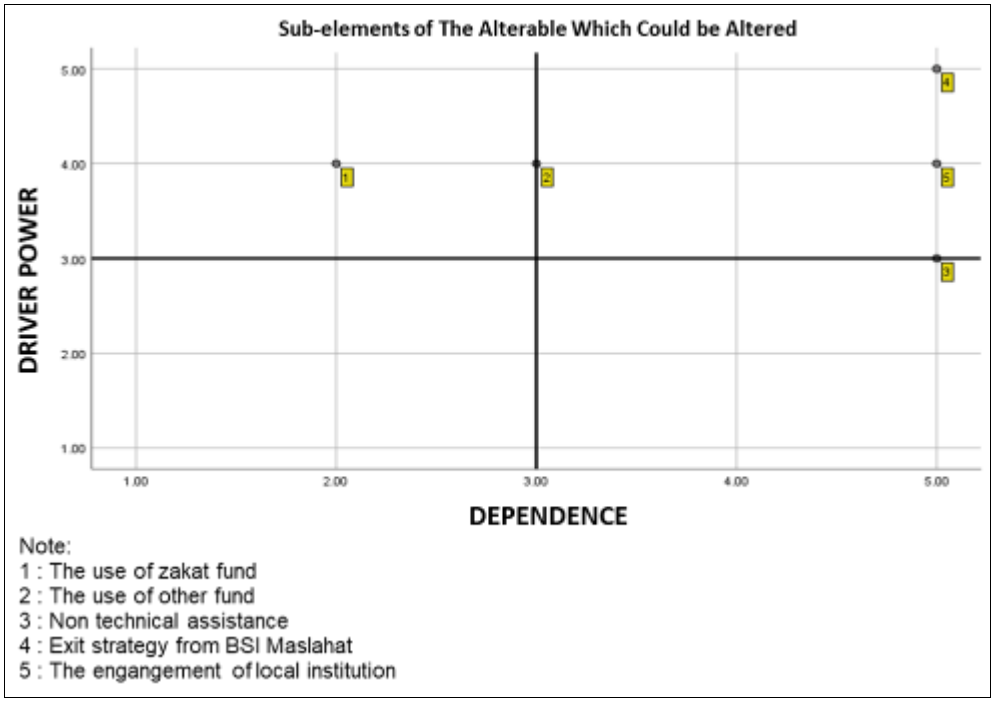
Table 4. 27 The Canonical Matrix of the alterable which could be altered from BSI Village

(i,j)	D1	D2	D3	D4	D5	Driver Power	Level	Dependence	Hierarchy
D1	1	0	1	1	1	4	2	2	3
D2	0	1	1	1	1	4	2	3	2
D3	0	0	1	1	1	3	3	5	1
D4	1	1	1	1	1	5	1	5	1
D5	0	1	1	1	1	4	2	5	1

Source: author's data processed by ISM Professional apps

The Power-Dependence Quadrant of the alterable which could be altered is presented in figure 4.4.3.2.2. below, where the use of another fund, non-technical assistance and exit strategy from BSI Maslahat are categorized in linkage quadrant, with the highest dependence and driver power characteristic belongs to exit strategy from BSI Maslahat. Moreover, the use of zakat fund is the independent/driving element and the non-technical assistance is the dependent element.

Figure 4. 7 The Power-Dependence Quadrant of the alterable which could be altered from BSI Village

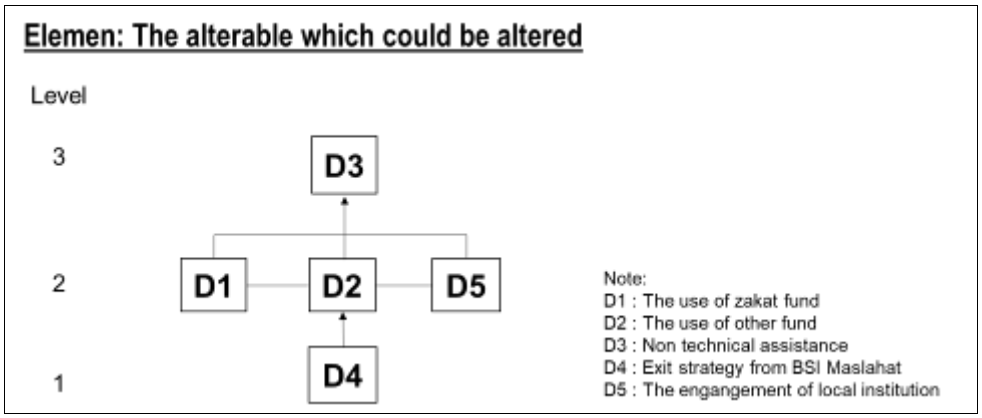


Source: author's data processed by ISM Professional apps

The Digraph – Level Diagram of the alterable which could be altered was derived from 4.4.3.2.1 above and presented in figure 4.4.3.2.3 below. The exit

strategy from BSI Maslahat plays an important role as the driving power of the system structure of the alterable which could be altered in BSI Village. This result is used to define the alternative strategic intervention in transforming the unbanked farmer into active bankable person with AHP method.

Figure 4. 8 System Structure of the alterable which could be altered from BSI Village



Source: author's data processed by ISM Professional apps

4.4.4. The Objectives Measure to Evaluate each Objective in BSI Village

4.4.4.1 The Structural Self-Interaction Matrix (SSIM) Of The Objectives Measure To Evaluate Each Objective

There are four sub-elements of the objectives measure to evaluate each objective. Based on the experts' rating, the access to financing products is having mutual influences with harvest volume and debt management, and also influenced by distribution of the group business profit portion in accordance with the established objective, while debt management has mutual influence with distribution of the group business profit portion in accordance with the established objective. On the other hand, harvest volume has no relationship with debt management but gives influence to the distribution of the group business profit portion in accordance with the established objective.

Table 4. 28 The contextual relationship between sub-elements (pair-wised) of the objective measure to evaluate each objective in BSI Village

(i,j)	Sub Elements	F1	F2	F3	F4
F1	Access to Financing Products		X	X	A
F2	Harvest Volume			O	V
F3	Debt Management				X
F4	Distribution of the group business profit portion in accordance with the established objective				

Source: author's data processed by ISM Professional apps

From the experts' rating, the next process is consistency checking of each relationship and eventually it produces one correction to the relationship between access to financing products and the distribution of the group business profit portion in accordance with the established objective. After carefully observed, the final interaction between them is considered as mutual influences. Thus, the final SSIM is obtained as follows:

Table 4. 29 The Structural Self-Interaction Matrix (SSIM) of the objective measure to evaluate each objective in BSI Village

(i,j)	**Sub Elements**	**F1**	**F2**	**F3**	**F4**
F1	Access to Financing Products	NA	X	X	X
F2	Harvest Volume	NA	NA	O	V
F3	Debt Management	NA	NA	NA	X
F4	Distribution of the group business profit portion in accordance with the established objective	NA	NA	NA	NA

Source: author's data processed by ISM Professional apps

4.4.4.2. The Reachability Matrix Within Canonical Matrix Of The Objectives Measure To Evaluate Each Objective

Access to financing products is the only sub-element of the objective measure to evaluate each objective that could reach all other sub-elements directly or indirectly. Furthermore, the distribution of the group business profit portion in accordance with the established objective could reach all other objective measures except to harvest volume. Meanwhile both of harvest volume and debt management have no path to each other but established a relationship with all other sub-elements directly or indirectly. These relationships are described in details by reachability matrix in table below:

Table 4. 30The Canonical Matrix of the objective measure to evaluate each objective in BSI Village

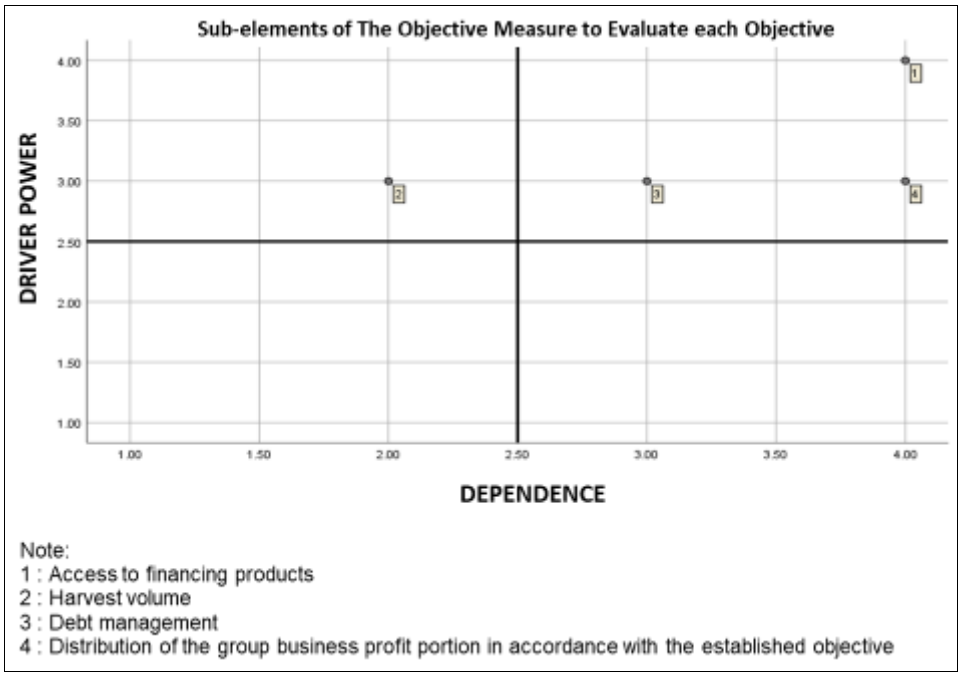
(i,j)	F1	F2	F3	F4	Driver Power	Level	Dependence	Hierarchy
F1	1	1	1	1	4	1	4	1
F2	1	1	0	1	3	2	2	3
F3	1	0	1	1	3	2	3	2
F4	1	0	1	1	3	2	4	1

Source: author's data processed by ISM Professional apps

According to figure 4.4.4.2.2 below, the Power-Dependence Quadrant of the objectives measure to evaluate each objective occupies two categories. Access to financing products, debt management and distribution of the group business profit portion in accordance with the established objective harvest volume are in

the linkage category, as they have the most driver power and high dependence, where access to financing products is the highest. Meanwhile harvest volume is the only sub-element in the independent/driving category, for it has high influence over others but isn't influenced much.

Figure 4. 9 The Power Dependence Quadrant of the objective measure to evaluate each objective in BSI Village

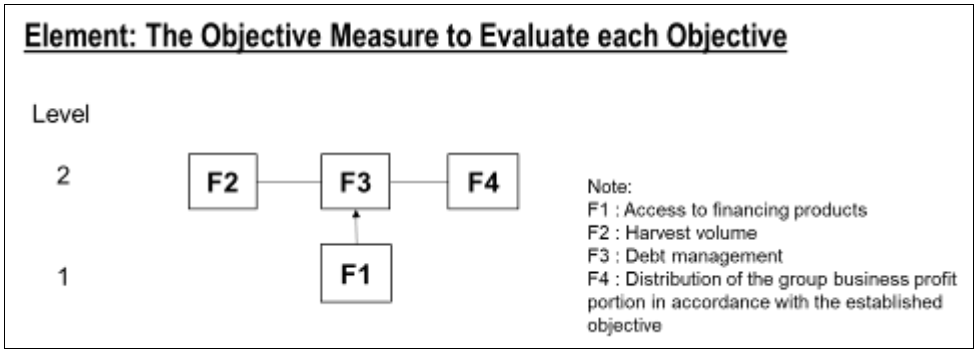


Source: author's data processed by ISM Professional apps

The Digraph – Level Diagram of the objectives measure to evaluate each objective was derived from figure 4.4.4.2.1 and the result can be seen in the figure 4.4.4.2.3 below. Access to financing products is the driver in the objective measure to evaluate each objective's system structure.

Figure 4. 10 The System Structure of the objective measure to evaluate each objective in BSI Village

d



Source: author's data processed by ISM Professional apps

4.4.5 The Agencies Involved in The Execution of BSI Village

4.4.5.1 The Structural Self-Interaction Matrix (SSIM) Of The Agencies Involved In Execution Of The Program

The agencies involved in the execution of BSI Village are consisted of seven agencies/actors. They are managers of PP Gapsera as the local institution; management and facilitator from BSI Maslahat; group coordinator of PP Gapsera; member of PP Gapsera; government ruling the irrigation; partners (supplier non-member) of PP Gapsera and buyer/reseller of PP Gapsera. Their relationship to each other is described by table below.

Table 4. 31 The Contextual Relationship Between Sub-Elements (pair-wised) Of The Agencies Involved In The Execution Of The Program

(i,j)	Sub Elements	I1	I2	I3	I4	I5	I6	I7
I1	Managers of PP Gapsera as the local institution		X	X	X	A	X	X
I2	Management and Facilitator from the BSI Maslahat			V	X	A	O	O
I3	Group Coordinator of PP Gapsera				X	A	O	O
I4	Member of PP Gapsera					A	O	A
I5	Government ruling the irrigation						V	O
I6	Partners (supplier non-member) of PP Gapsera							O
I7	Buyer/Reseller of PP Gapsera							

Source: author's data processed by ISM Professional apps

After the consistency checking, the final structural self-interaction matrix is described by table below:

Table 4. 32 The Structural Self-Interaction Matrix (SSIM) Of The Agencies Involved In The Execution Of The Program

(i,j)	Sub Elements	I1	I2	I3	I4	I5	I6	I7
I1	Managers of PP Gapsera as the local institution	NA	X	X	X	A	X	X
I2	Management and Facilitator from the BSI Maslahat	NA	NA	V	V	A	O	O
I3	Group Coordinator of PP Gapsera	NA	NA	NA	X	A	O	O
I4	Member of PP Gapsera	NA	NA	NA	NA	A	O	X

(i,j)	Sub Elements	I1	I2	I3	I4	I5	I6	I7
I5	Government ruling the irigation	NA	NA	NA	NA	NA	V	O
I6	Partners (supplier non-member) of PP Gapsera	NA	NA	NA	NA	NA	NA	O
I7	Buyer/Reseller of PP Gapsera	NA	NA	NA	NA	NA	NA	NA

Source: author's data processed by ISM Professional apps

4.4.5.2. The Reachability Matrix within Canonical Matrix Of The Agencies Involved In Execution Of The Program

The reachability matrix is derived from the SSIM through ISM Professional apps and resulting a distinguished pattern of relationship. Managers of PP Gapsera as the local institution can be reached by all other actors, but they have no path with government ruling the irrigation only, while can reach others directly or indirectly. In contrary the government can reach everyone except the buyer/reseller of PP Gapsera, for they have no path.

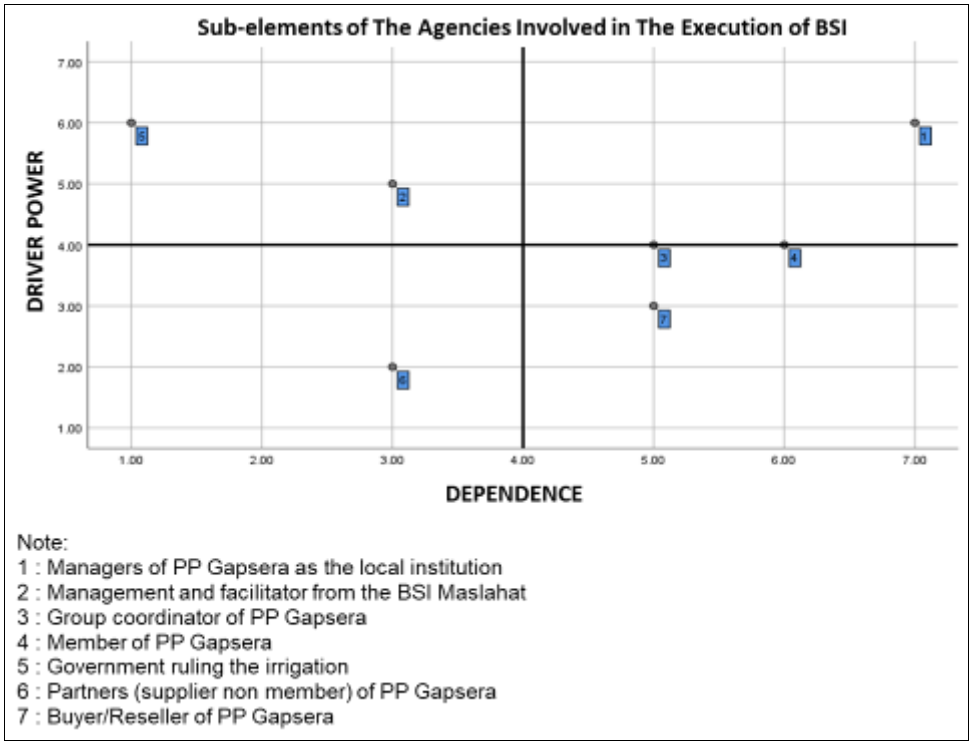
Table 4. 33The Canonical Matrix of the agencies involved in the execution of the program

(i,j)	I1	I2	I3	I4	I5	I6	I7	Driver Power	Level	Dependence	Hierarchy
I1	1	1	1	1	0	1	1	6	1	7	1
I2	1	1	1	1	0	0	1	5	2	3	4
I3	1	0	1	1	0	0	1	4	3	5	3
I4	1	0	1	1	0	0	1	4	3	6	2
I5	1	1	1	1	1	1	0	6	1	1	5
I6	1	0	0	0	0	1	0	2	5	3	4
I7	1	0	0	1	0	0	1	3	4	5	3

Source: author's data processed by ISM Professional apps

The Power-Dependence Quadrant of the agencies involved in execution of the program can be seen in the picture 4.4.5.2.2 below where Managers of PP Gapsera as the local institution is the most vulnerable one, the only actor in the linkage category with the highest driver power and dependence both.

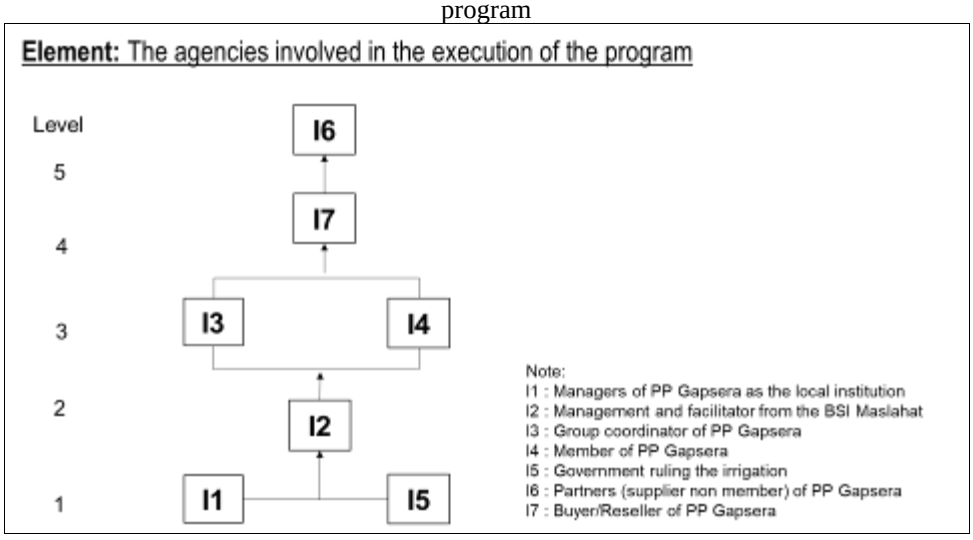
Figure 4. 11 The Power Dependence Quadrant of the agencies involved in the execution of the program



Source: author's data processed by ISM Professional apps

The Digraph – Level Diagram of the agencies involved in execution was derived also from the canonical matrix presented in figure 4.4.5.2.1, of the program Managers of PP Gapsera as the local institution along with government ruling the irrigation played as the driver in the system structure accordingly.

Figure 4. 12 The System Structure of the agencies involved in the execution of the program



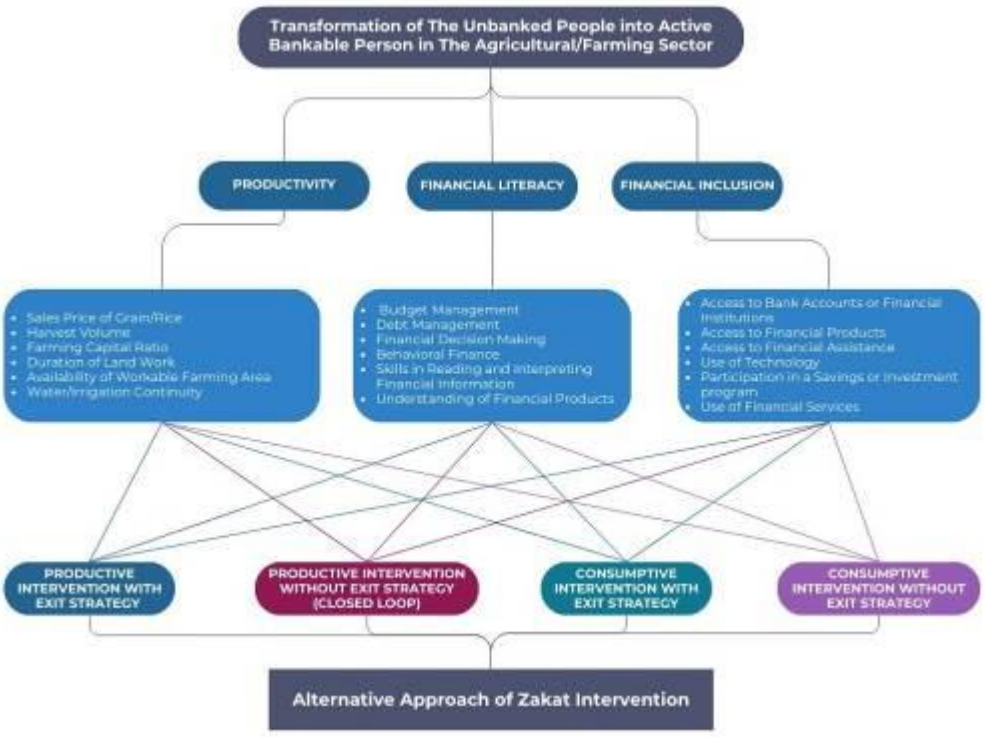
Source: author's data processed by ISM Professional apps

4.5 Analytical Hierarchy Process (AHP) Results

4.5.1 The AHP Design

Based on the results of the perception survey and the ISM analysis, we have determined that the Zakat Empowering Program is a productive intervention that utilizes the Zakat Fund effectively. The fact that after program termination from BSI Maslahat, the poor farmers that were lifted out of poverty were going back under in 2023, means that they were actually still vulnerable, and the exit strategy of BSI Maslahat might need to be revisited again. This exit strategy alternative is also supported by ISM analysis on the dependence power and driving power quadrants of element the alterable which could be altered, where the exit strategy is the highest on both dependence and driver power values. The AHP method aids in determining the most suitable alternatives and criteria for achieving the program's goals. Below is the schematic AHP design with the program goal is transformation of the unbanked people into active bankable person in the agricultural/farming sector:

Figure 4. 13 The AHP design with goal: transformation of the unbanked people into active bankable person in the agricultural/farming sector



Source: author’s data, analysis & design

4.5.2 AHP Decomposition

The comparisons and linkage analysis of the calculations result on variables and indicators in the perception survey, as well as the results from the ISM analysis of BSI Village elements, were being done by synthesizing all the significant numbers. Based on the figure 3.2 above and following the previous results, the criteria, sub-criteria, and alternatives for the experts' rating can be formulated as follows:

Table 4. 34 The Definition Of Each Terminology For AHP Survey/Rating (Based On Perception Survey And ISM Analysis)

Terms	Definition	References
Productivity	Yields (output per hectare) and returns per labor day of farming activities	(Ngambeki & Ikpi, n.d.) (Reardon et al., n.d.)
Sales Price of Grain/Rice	The market price at which grain or rice is sold, usually measured per unit weight (e.g., per kilogram or per ton).	(Osanyinlusi & Adenegan, 2016; Reardon et al., n.d.)
Harvest Volume	The total quantity of grain or rice harvested from a specific area of land, typically measured in metric tons or bushels.	(Reardon et al., n.d.)
Farming Capital Ratio	The ratio of total capital invested to start farming (buying seeds, fertilizer, farming chemicals, labor, machinaries,water, etc) to the total value of agricultural output.	(Osanyinlusi & Adenegan, 2016)
Duration of Land Work	The total time spent working on the land for agricultural activities, usually measured in days or hours per season or year.	(Reardon et al., n.d.)
Availability of Workable Farming Area	The amount of land that is suitable, available and attainable for farming activities.	(Paltasingh & Goyari, 2018)
Water/Irrigation Continuity	The consistent availability and reliability of water supply for irrigation throughout the farming season.	FGD & Interview result
Financial Literacy	The ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing.	(Bire et al., 2019)
Budget Management	The process of creating, implementing, and overseeing a plan to spend money in a way that aligns with financial goals.	(Hidayatinnisa et al., 2021; Servon & Kaestner, 2008)
Debt	The ability to manage debt through	(Hidayatinnisa et al.,

Terms	Definition	References
Management	strategies that include repayment plans and minimizing interest costs.	2021)Interview Result
Financial Decision Making	The process of making informed choices about the allocation of financial resources.	(Hidayatinnisa et al., 2021)
Behavior Toward Money	The actions and attitudes individuals exhibit in managing their finances, the psychological mindset.	(Hidayatinnisa et al., 2021)
Skills in Reading and Interpreting Financial Information	The ability to understand and analyze financial statements and reports.	(Hidayatinnisa et al., 2021)
Understanding of Financial Products	Knowledge of various financial products such as loans, savings accounts, insurance, and investments.	(Hidayatinnisa et al., 2021)
Financial Inclusion	The process of ensuring access to appropriate financial products and services needed by individuals and businesses to manage their finances effectively.	(Bire et al., 2019)
Access to Bank Accounts or Financial Institutions	The ability to open and maintain a bank account or use services provided by financial institutions.	(Priyadarshini et al., 2020)
Access to Financial Products	The availability of financial products like loans, credit, insurance, and investment opportunities to individuals and businesses.	(Priyadarshini et al., 2020)
Access to Finance Assistance	The ability to receive consult in finance from professionals	(Kayongo & Mathiassen, 2023b)
Use of Technology	The application of digital tools and platforms to improve financial transactions and management.	(Wardhono, 2016)
Participation in a Savings or Investment Program	The act of regularly contributing to savings accounts or investment schemes.	(Wardhono, 2016)
Use of Financial Services	The engagement with services offered by financial institutions, such as banking, insurance, and investment services.	(Wardhono, 2016)
Productive Intervention With Exit Strategy	An intervention aimed at improving the economic productivity of beneficiaries, with a planned approach to eventually	ISM Result

Terms	Definition	References
	phase out support, enabling self-sustainability.	
Productive Intervention Without Exit Strategy (Closed Loop)	An intervention focused on enhancing economic productivity, where continuous support is provided with sequenced reduction intervention and keeping the portfolio in the loop of continous business model/sociopreneurship	ISM Result
Consumptive Intervention With Exit Strategy	An intervention providing consumptive support (e.g., food aid, cash transfers) with a planned approach to gradually phase out support as beneficiaries achieve stability.	ISM Result
Consumptive Intervention Without Exit Strategy	An intervention that provides ongoing consumptive support without a planned phase-out, ensuring continuous assistance.	ISM Result

Source: author's data & design

4.5.4 The Consistency Ratio of AHP Raters

There are five experts involved in this survey. Their expertise spans professional, amil zakat, NGO, and government representatives. The table 4.5.4 below shows the consistency ratio of the experts is overall below 0.1, which is a good consistency ratio.

Thus, the calculation results from the expert ratings can be used to analyze the criteria and sub-criteria for achieving the goal of transforming unbanked people into active bankable people in the agricultural and farming sectors.

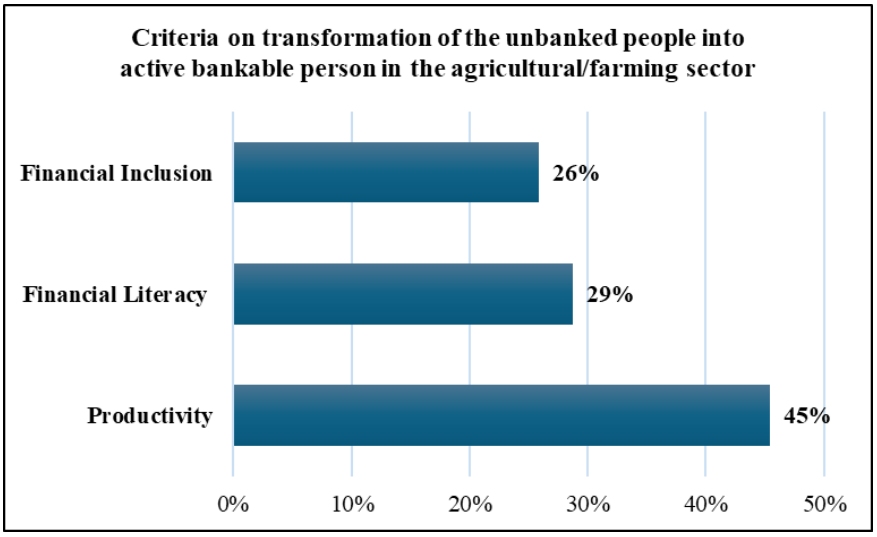
Table 4. 35 The calculation of all consistency ratio from 5 experts (generated from expert choices software)

Name	L (weightage)	Combined	BS	RK	WH	UB	RMI
Overall	-	0.0020	0.0116	0.0145	0.0088	0.0013	0.0075
Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultural/Farming Sector	-	0.0004	0.0088	0.0000	0.0000	0.0000	0.0000
Productivity	**0.4540**	**0.0017**	**0.0251**	**0.0087**	**0.0321**	**0.0000**	**0.0070**
Sales Price of Grain/Rice	0.1350	0.0003	0.0039	0.0055	0.0117	0.0039	0.0078
Harvest Volume	0.1990	0.0024	0.0039	0.0228	0.0117	0.0039	0.0228
Farming Capital Ratio	0.2640	0.0003	0.0000	0.0329	0.0392	0.0039	0.0000
Duration of Land Work	0.1240	0.0060	0.0000	0.0457	0.0117	0.0039	0.0157
Availability of Workable Farming Area	0.1570	0.0008	0.0039	0.0329	0.0117	0.0039	0.0000
Water/Irrigation Continuity	0.1200	0.0080	0.0252	0.0457	0.0117	0.0039	0.0228
Financial Literacy	**0.2870**	**0.0020**	**0.0215**	**0.0106**	**0.0006**	**0.0000**	**0.0042**
Budget Management	0.2650	0.0072	0.0267	0.0457	0.0117	0.0039	0.0191
Debt Management	0.1430	0.0037	0.0055	0.0405	0.0117	0.0039	0.0039
Financial Decision Making	0.1500	0.0044	0.0039	0.0582	0.0117	0.0039	0.0039
Behavior towards Money	0.1780	0.0049	0.0039	0.0405	0.0117	0.0039	0.0039
Skills in Reading and Interpreting Financial	0.1760	0.0018	0.0039	0.0117	0.0117	0.0039	0.0039
Understanding of Financial Products	0.0870	0.0010	0.0039	0.0213	0.0117	0.0039	0.0000
Financial Inclusion	**0.2590**	**0.0009**	**0.0015**	**0.0052**	**0.0114**	**0.0029**	**0.0006**
Access to Bank Accounts or Financial Insti	0.2120	0.0037	0.0039	0.0117	0.0117	0.0000	0.0228
Access to Financial Products	0.0880	0.0031	0.0055	0.0117	0.0117	0.0000	0.0228
Access to Financial Assistance	0.1780	0.0041	0.0039	0.0117	0.0117	0.0000	0.0267
Use of Technology	0.1200	0.0014	0.0039	0.0117	0.0117	0.0000	0.0000
Participation in a Savings or Investment	0.2520	0.0096	0.0039	0.0405	0.0117	0.0000	0.0542
Use of Financial Services	0.1520	0.0041	0.0039	0.0117	0.0117	0.0000	0.0267

Source: author's data processing with expert choices

4.5.5 AHP Calculation on Goals

Figure 4. 14 The overall experts rating on criteria based on ranks & average pair-wised comparison



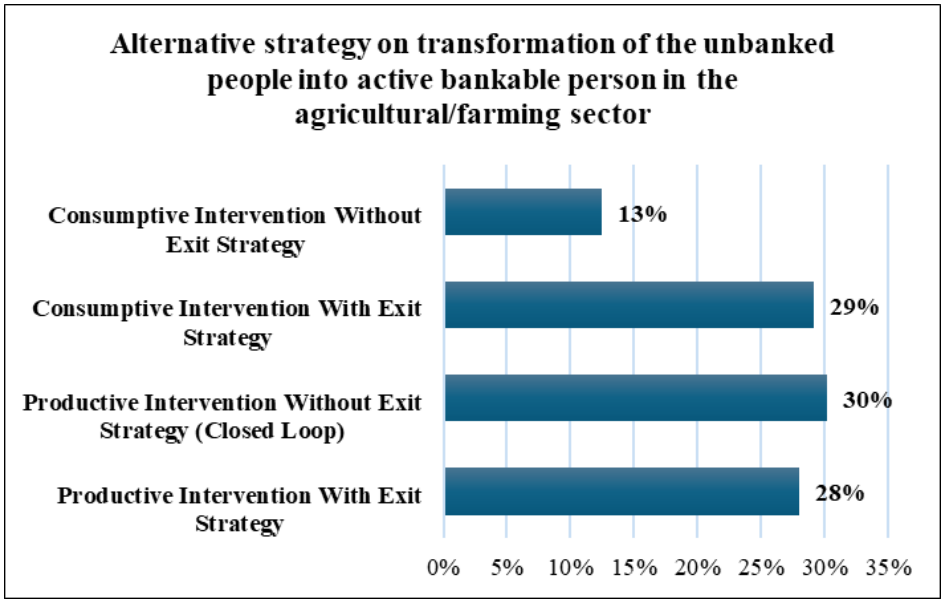
Source: author's data processing with expert choices

The figure 4.5.5.1 above illustrates the overall results of the respondents. Expert raters agree that productivity, with a value of 45%, is the most significant

criteria in transforming unbanked people into active bankable person in the agricultural/farming sector. While the other two criteria follow closely, there is a significant disparity between them. Specifically, financial literacy has an overall rating of 29%, and financial inclusion has a value of 26%. Furthermore, these findings can also function as markers for prioritizing certain interventions.

The AHP method evaluates the intervention model as an alternative. Looking at picture 4.5.5.2 below, we can see that the alternative productive intervention without exit strategy (close loop) is the option most agreed upon by experts, with a score of 30%. The consumptive intervention with exit strategy comes next, receiving a rating of 29%, followed by the productive intervention with exit strategy at 28%, and the consumptive intervention without exit strategy at 13%. These four alternative strategies could be priority choices for intervention needs aimed at transforming unbanked people into actively bankable people in the agricultural/farming sector.

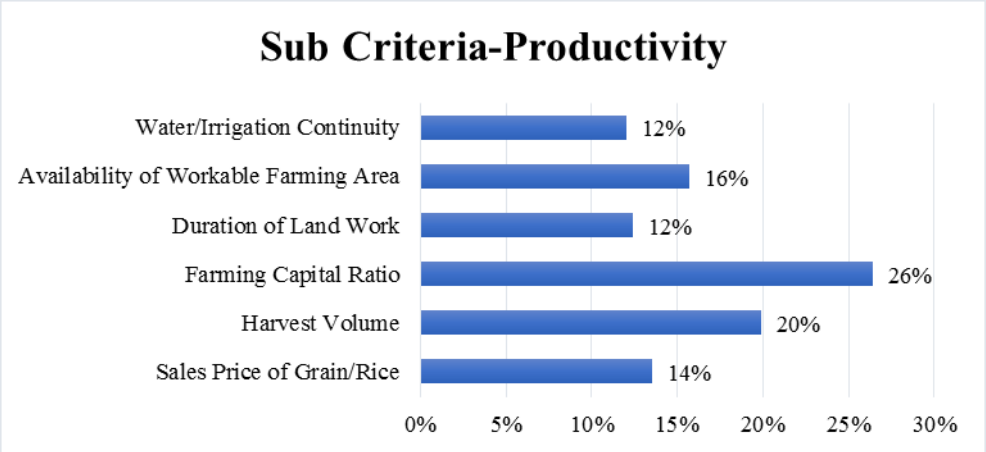
Figure 4. 15 The Overall Experts Rating On Alternative Based On Ranks & Average Pair-Wised Comparison



Source: author's data processing with expert choices

4.5.6 AHP Calculation on Sub-Criteria of Productivity

Figure 4. 16 The overall experts rating on sub-criteria of productivity based on ranks & average pair-wised comparison



Source: author's data processing with expert choices

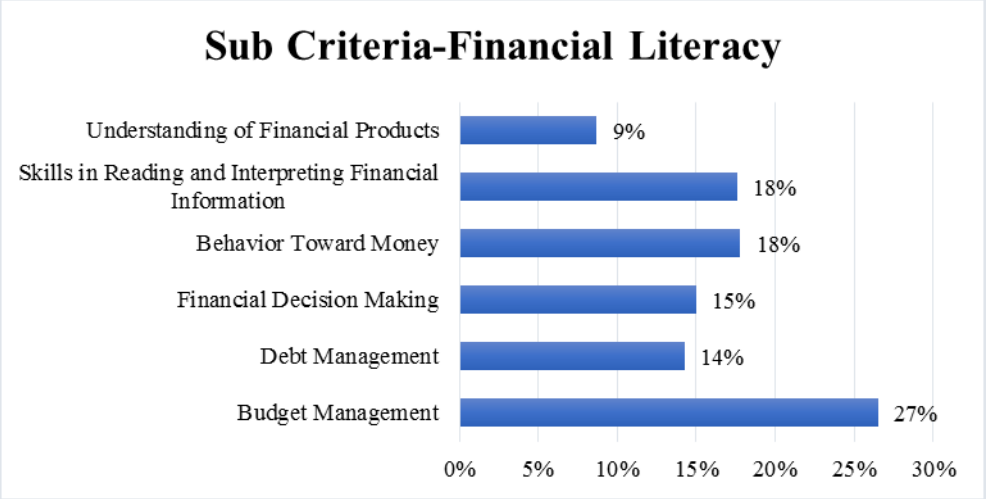
The derived ratings for the criteria in figure 4.5.6 above indicate the relative significance of each sub-criteria in influencing productivity. The Farming Capital Ratio was identified as the most crucial factor, with a value of 26%, signifying that the percentage of capital allocated to farming has a considerable impact on productivity. The harvest volume, measured at 20%, is of great significance, indicating the volume of crops yield is by the fact important indicator for productivity.

The availability of workable farming areas holds 16%, underlining the importance of having sufficient arable land for the farmer to maintain cultivating. The sales price of grain or rice, with the value of 14% surely impact the productivity in term of profitability of the crops yield. Duration of Land Work and Water/Irrigation Continuity have both the value of 12%, which implies that the amount of time devoted to cultivating the land and the regularity of air distribution are equally important even though they are considered the least significant sub-criteria among the analyzed criteria. This shows that although these factors have an impact on productivity, their influence is smaller than that of other factors. This result can be used to plan relevant resources for increasing productivity.

4.5.7 AHP Calculation on Sub-Criteria of Financial Literacy

In the picture 4.5.7 below, the calculated ratings for the financial literacy criteria highlight the importance of each sub-criteria in contributing to a person's financial literacy. Budget management is the most critical sub-criteria, with a value of 27%, emphasizing the importance of personal financial planning and control. Behavior toward money and Skills in Reading and Interpreting Financial Information each have a value of 18%, which shows that an individual's behavior towards money, as well as the ability to understand financial information, are important in financial literacy. Financial decision making has a value of 15%, which shows that the ability to make informed and wise financial decisions is quite important. Debt management holds a value of 14%, indicating its relative importance compared to other sub-criteria. However, it still holds a higher weight than the last sub-criteria, Understanding Financial Products, with a value of 9%. This sub-criterion is considered the least influential criterion, indicating that while knowledge about financial products is useful, it is less significant than other aspects of financial literacy. This prioritization allows for a focused approach to improving financial literacy by addressing the sub-criteria that are considered the most influential.

Figure 4. 17 The Overall Experts Rating On Sub-Criteria Of Financial Literacy, Based On Ranks & Pair-Wised Comparison



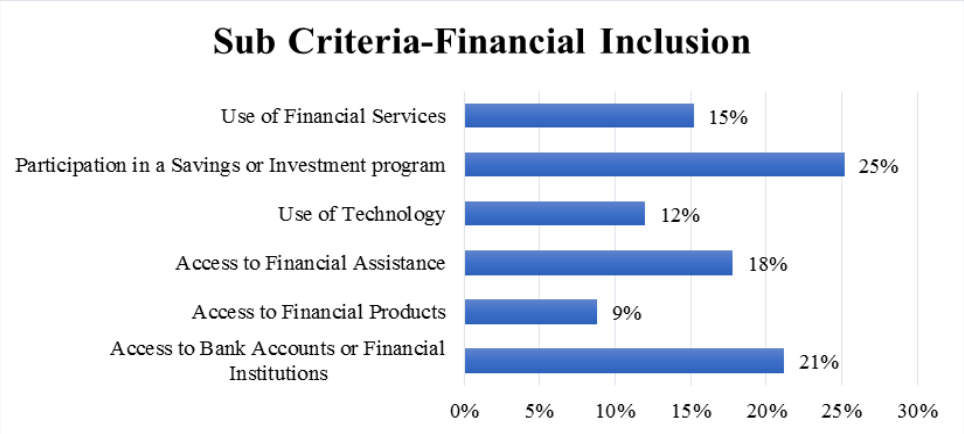
Source: author's data processing with expert choices

4.5.8 AHP Calculation on Sub - Criteria of Financial Inclusion

Regarding the financial inclusion criteria, experts concur that the sub-criteria participation in a savings or investment program is the most important aspect of achieving a desirable level of financial inclusion. As seen in the picture

4.5.8 below, participation in a savings or investment program received a rating of 25%, indicating that a person's desire and involvement in consciously having savings or investments is an important factor that must be taken into consideration. This is even more so when compared to having access to financial products, which ranked last with a value of 9%. Despite the availability of accessible financial and investment products, if individuals fail to maintain awareness of saving and investing, it will merely become a financial commodity without contributing to any improvement in welfare. Similarly, the use of technology, which ranks in the bottom two positions with a value of 12%, does not necessarily guarantee that inclusion meets expectations. The second priority of this criterion is access to bank accounts or financial institutions, with a score of 21%. Banks and financial institutions are public-trust institutions that provide financial services in a systematic and accountable manner. Easy access will avoid the predatory impact of financial inclusion. This would be even better if followed by Access to Financial Assistance, which is worth 18%. The assistance referred to here is not only financial assistance but also financial expert consultation assistance, which strengthens a family or individual's literacy and strategy in managing their finances. In the agricultural/farming context, this is crucial to ensuring the sustainability of the farming activity cycle.

Figure 4. 18 The overall experts rating on sub-criteria of financial inclusion based on ranks and average pair-wised comparison



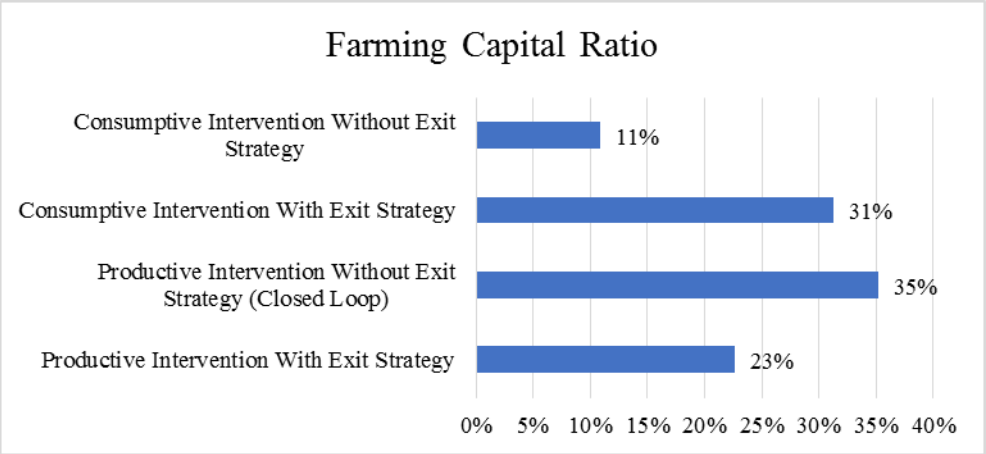
Source: author's data processing with expert choices

The following are the results of expert ratings to assess four alternative interventions patterns commonly used in the utilization of zakat funds by zakat amil institutions. Overall, there are 18 pairwise set comparisons for each sub-criteria of productivity, financial literacy, and financial inclusion.

4.5.9 AHP Calculation On Alternatives Statement For Improving The Farming Capital Ratio

The first is to explore how each alternative intervention pattern fits the sub-criteria of productivity, namely the farming capital ratio as the highest influence in the productivity criteria. When the BSI Village program was launched, the condition of the land in Rejo Asri village was quite worrying because its productivity at that time was only around 4 tons per hectare in 2018. This low land productivity made the farming capital ratio quite high, so agricultural profitability was low. We can see in the picture 4.5.9 below, the productive intervention without an exit strategy (close loop) is agreed upon by experts as the best choice for optimizing the farming capital ratio, with a value of 35%. The close-loop strategy is to place the entire value chain and supply chain of agricultural needs and products in one inclusive business ecosystem that can be accessed by poor farmers. so that as the quality of the land returns to become more productive, farmers can also get other needs easily and on time, then supported by a yield protection mechanism that provides greater profit opportunities. The no-exit strategy position referred to here is the strategic point of BSI Maslahat, which controls intervention patterns so that the developed ecosystem continues to grow by gradually reducing the portion of decision-making and material intervention. In reality, this intervention pattern cannot stand alone because poor farmers also need living expenses during the waiting period for the harvest, so the consumptive intervention with exit strategy pattern must also be implemented at the start of the program. For this reason, the experts put it in the second option with a value of 31%. The next alternative, a productive intervention with an exit strategy, has a value of 23%. In the case of BSI Village, they implemented this pattern from 2019 to 2022, and found that the beneficiaries still perceived the farming capital ratio favorably in 2024. The last option, consumptive intervention with no exit strategy, has a value of 11%, indicating it is not recommended.

Figure 4. 19 The pair-wised comparison result on determining the most suitable alternative for improving farming capital ratio

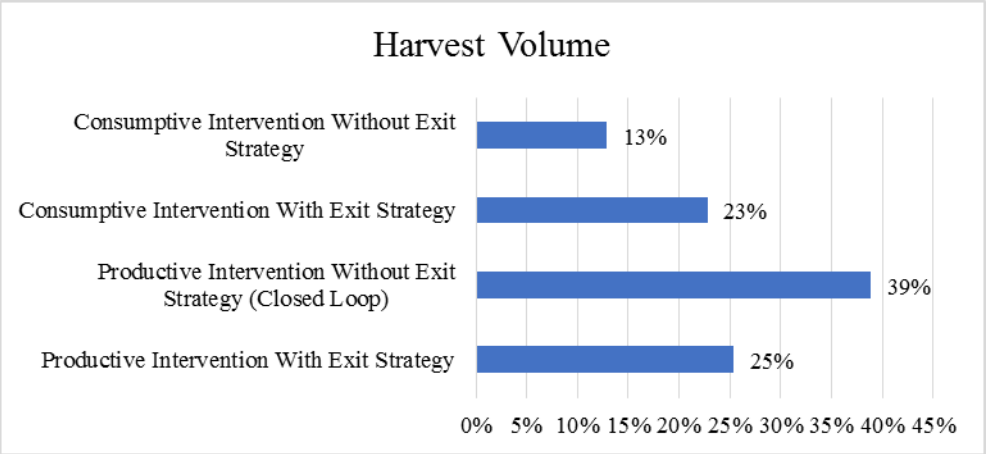


Source: author's data processing with expert choices

4.5.10 AHP Calculation On Alternatives Statement For Improving The Harvest Volume

As reported in the BSI Village document, the initial root of the problem was the existing land farm losing its productivity due to excessive use of fertilizer and pesticides, which then gave rise to an unstoppable downtrend in harvest volume. The crop yield of 4 tons per hectare was very far from the average ideal land productivity of 6–8 tons per hectare. Based on the results of the expert ratings below (picture 4.5.10), it can be seen that productive intervention without an exit strategy (close loop) is a prioritized intervention pattern with a value of 39%. The productive intervention carried out by BSI Maslahat through the healthy farming method has gradually succeeded in increasing harvest volume until 2022. This has also attracted the attention of experts, with a value of 25% for the alternative productive intervention with exit strategy. The difference between with and without an exit strategy is the emphasis on the sustainability of the harvest volume effect, which is expected to occur continuously. Meanwhile, consumptive intervention with exit strategy is ranked 3rd with 23%, and consumptive intervention without exit strategy is the last alternative with a value of 13%.

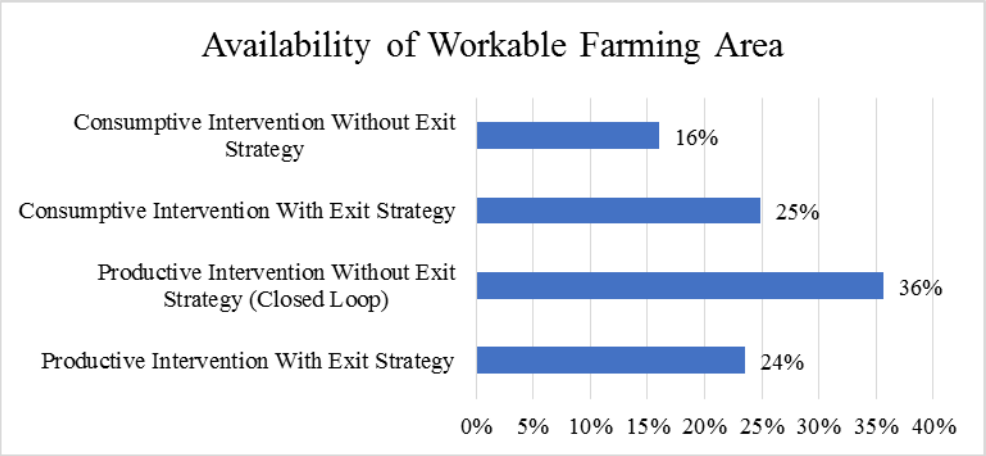
Figure 4. 20 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Harvest Volume



Source: author's data processing with expert choices

4.5.11 AHP Calculation On Alternatives Statement For Improving The Availability Of Workable Farming Area

Figure 4. 21 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving The Availability Of Workable Farming Area



Source: author's data processing with expert choices

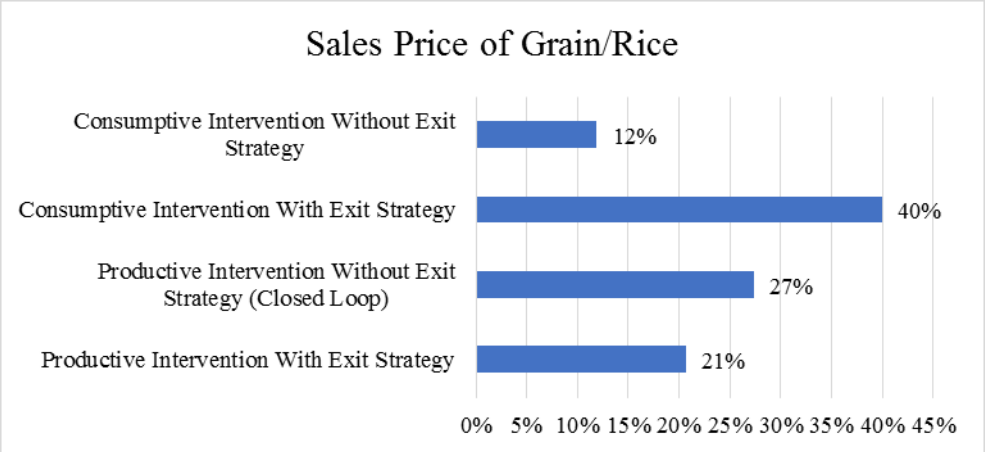
The results in the picture 4.5.11 above explain that the experts agree for productive intervention without exit strategy (close loop) is the main choice to ensure the availability of workable farming areas; their rating for this is 36%. While consumptive intervention with exit strategy is the next choice with a value of 25%, not much different than productive intervention with exit strategy with a value of 24%. The last alternative is consumptive intervention without exit strategy (16%). The sustainability of farming is closely tied to the availability of land; the complexity of ownership and access to land is a particular difficulty for

sharecroppers. In the segment of unbanked people who are poor farmers and only understand how to survive living by farming, the existence and access to land that can be worked on are vital.

4.5.12 AHP Calculation on Alternatives Statement for Improving the Sales Price of Grain/Rice

The suitability of each alternative for improving the sales price of grain or rice can be seen on the picture 4.5.12 below. For this sub-criteria, consumptive intervention with exit strategy received the highest suitability rating of 40%. This is possible because the situation of farmers who cannot control the price of grain is a vulnerability in itself, and the consumptive intervention in question can be in the form of a cash transfer compensation package given to poor farmers.

Figure 4. 22 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Sales Price Of Grain/Rice



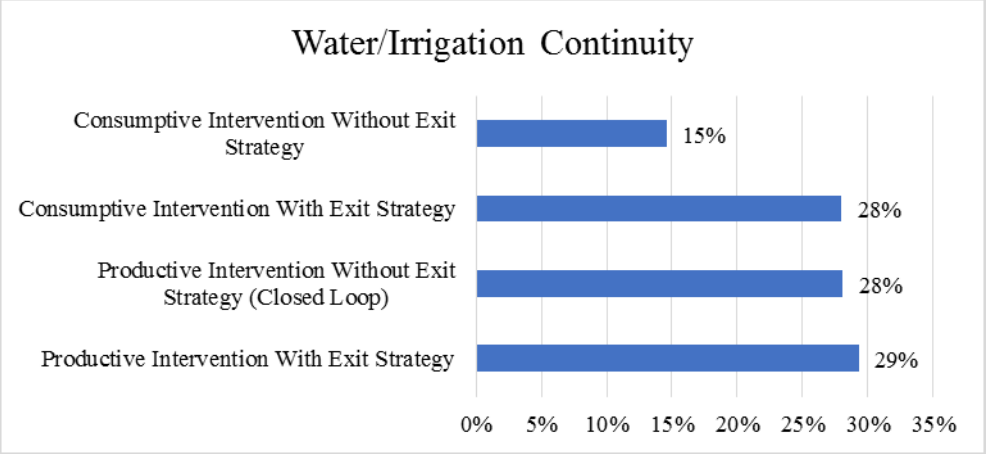
Source: author's data processing with expert choices

The existence of an exit strategy in the consumptive intervention pattern should be followed by the next intervention pattern, namely the productive intervention without exits strategy (closed loop) with a suitability value of 27%, which ensures that grain produced by poor farmers can be sold at a good price and guarantees long-term prosperity. The next choice of intervention pattern is productive intervention with exit strategy, with a value of 21%, and consumptive intervention without exit strategy, with a value of 12%.

4.5.13 AHP Calculation On Alternatives Statement For Improving The Water/Irrigation Continuity

One thing that differentiates the Lampung area from other areas related to irrigation is the existence of a system that is connected to the provincial level, is under the authority of the governor, and is regulated by the Lampung Irrigation Commission. This causes the schedule of planting patterns and the opening of irrigation gates in each area to be timings that cannot be negotiated by individual farmers, especially if they are poor farmers who have limited farming capital. In the picture 4.5.13 below, experts agree that productive intervention with exit strategy is the main choice with a value of 29%, while productive intervention without exit strategy (close loop) and consumptive intervention with exit strategy are the next choices with both values at 28%. Consumptive intervention without an exit strategy is still the last option, with a value of 15%.

Figure 4. 23 The pair-wised comparison results on determining the most suitable alternative for improving water/irrigation continuity



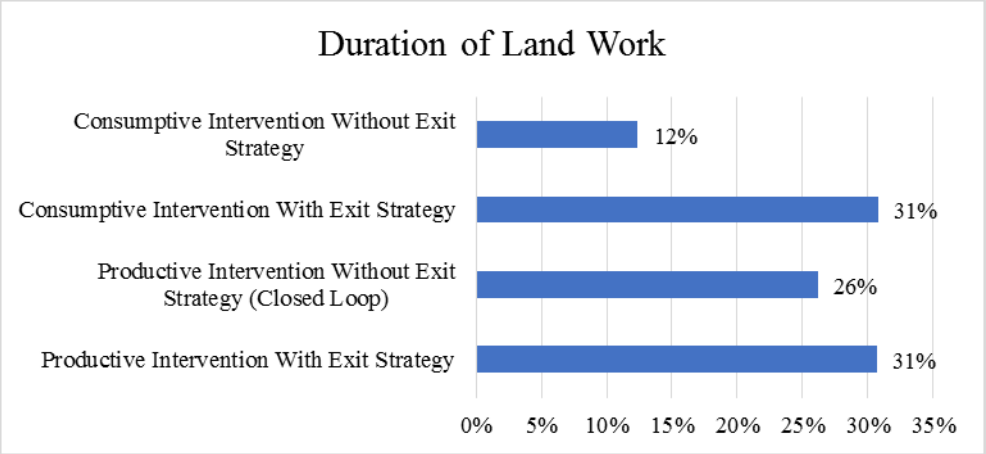
Source: author's data processing with expert choices

4.5.14 AHP Calculation On Alternatives Statement For Improving The Duration Of Land Work

In the analysis of the influence of sub-criteria for productivity above, duration of land work is in the last position, along with irrigation continuity. Poor farmers generally do not work on their own land or become farm laborers, and on average, they are only able to work on 0.25 hectares of land. The harvest from this area ranges from 800 to 1500 kg of grain, which, when sold, is almost impossible to meet the needs of the next 3–4 months. Farmers in these conditions have the option of selling some of their harvest and others to eat themselves, and in between working on the fields, they do other work to earn money. Thus, the

duration of land work will affect farmers' opportunities to get alternative income from other jobs, which can then affect the availability of planting capital and overall productivity. From the figure 4.5.14 below, experts agree that consumptive intervention with exit strategy and productive intervention with exit strategy are the main choices, with a value of 31% each, assuming these interventions are able to provide sufficient supporting capacity for farmers to optimize land work. The next option is productive intervention without exit strategy (closed loop) with a value of 26%, and finally consumptive intervention without exit strategy at 12%.

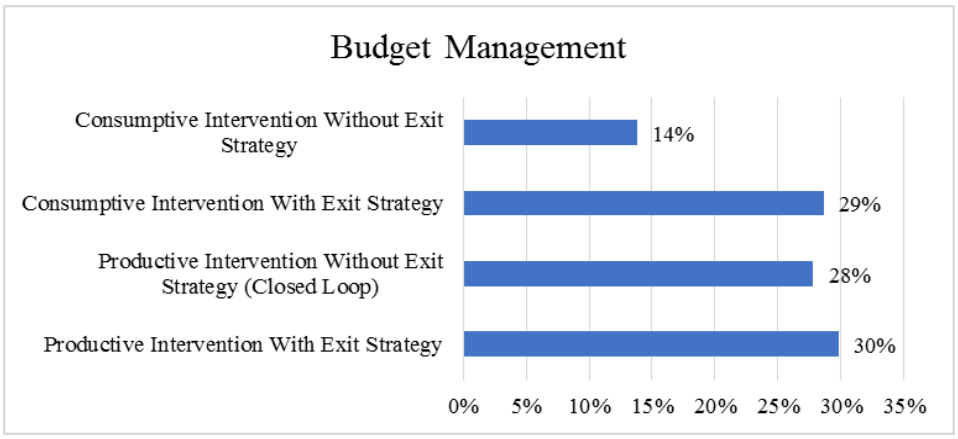
Figure 4. 24 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Duration Of Land Work



Source: author's data processing with expert choices

4.5.15 AHP Calculation on Alternatives Statement for improving the Budget Management

Figure 4. 25 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Budget Management

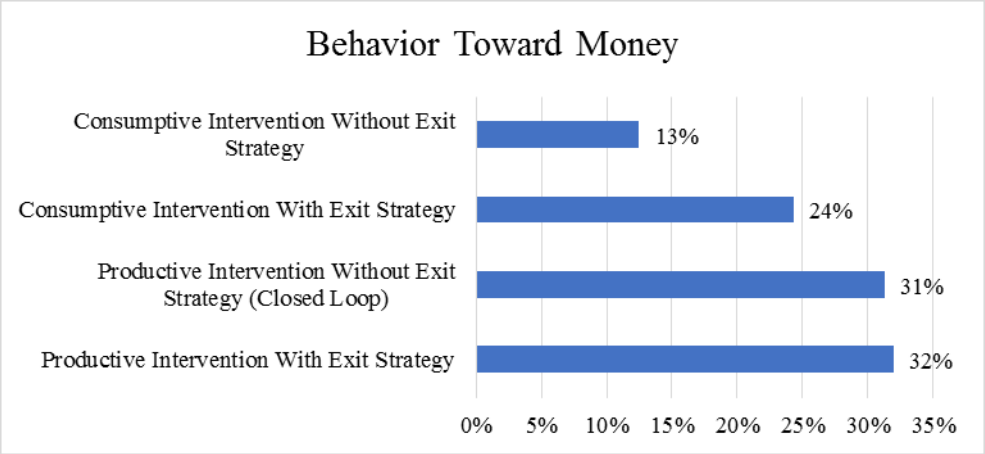


Source: author's data processing with expert choices

Budget management occupies the highest position in the sub-criteria in Financial Literacy, indicating that the ability to manage money in a situation among unbanked people is a very important aspect. Poor farmers in this group may live on just IDR 200,000, - per month for a family of 2-4 members (assuming there is no necessity for paying the tuition fee, health insurance, and transportation/fuel). The situation in the village supports this lifestyle, residents plant and raise chicken or livestock for daily food (vegetables and chicken eggs). In this context, the exposure to consumerism poses a threat that must be addressed with the ability to manage money, where for farmers, the time it takes to receive money can be exceeding than 1 month. According to the expert rater, as seen in the picture 4.5.15 above, the most suitable intervention for improving budget management among unbanked people is productive intervention with an exit strategy with a value of 30%, followed consecutively by consumptive intervention with an exit strategy at 29% and productive intervention without an exit strategy (closed loop) at 28%. The final alternative is consumptive intervention without exit strategy, with a value of 14%.

4.5.16 AHP Calculation On Alternatives Statement For Improving The Behavior Towards Money

Figure 4. 26 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Behavior Toward Money



Source: author's data processing with expert choices

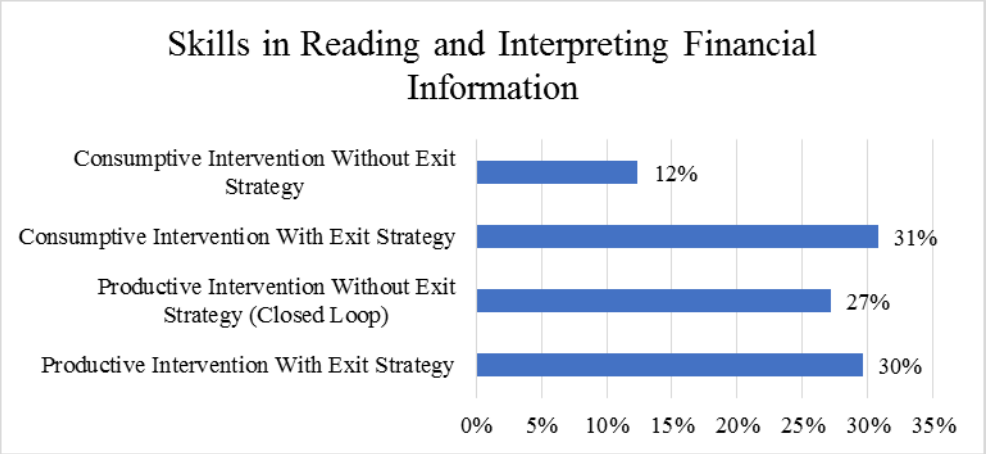
One of the sub-criteria in financial literacy is behavior toward money, which refers to how people think about their money, approach it psychologically and manages needs related to money. Based on expert rating on the figure 4.5.16,

it can be seen that productive intervention with exit strategy is the most appropriate alternative for improving behavior toward money, with a value of 32%, and productive intervention without exit strategy (closed loop) has slightly different value of 31%. Consumptive intervention with exit strategy is next with 24%, and consumptive intervention without exit strategy is still the last choice with a value of 13%.

4.5.17 AHP Calculation on Alternatives Statement for improving the Skills in Reading and Interpreting Financial Information

In the picture 4.5.17 below, the consumptive intervention with exit strategy received the highest expert rating as the most suitable intervention for improving skills in reading and interpreting financial information, with a score of 31%. The next alternative is productive intervention with exit strategy received a rating of 30%, which is slightly different with the first alternative. Meanwhile, productive intervention without an exit strategy (closed loop) is the third alternative, with a value of 27%. Consumptive intervention without an exit strategy is the last option, with a value of 12%.

Figure 4. 27 The pair-wised comparison results on determining the most suitable alternative for improving skills in reading and interpreting financial information



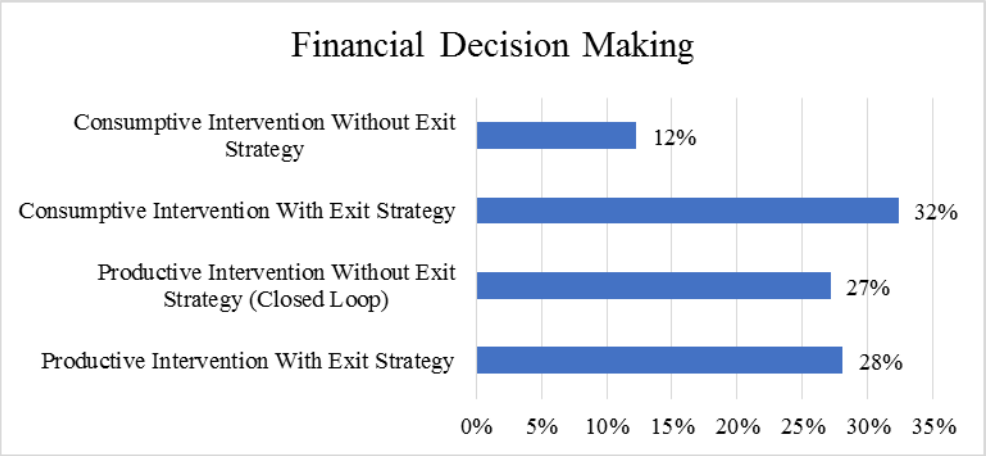
Source: author's data processing with expert choices

4.5.18 AHP Calculation Alternatives Statement For Improving The Financial Decision Making

From the picture 4.5.18 below, it can be seen that the experts chose the consumptive intervention with exit strategy alternative as the most suitable intervention option for improving financial decision-making, with a value of

32%. Next, the experts selected productive intervention with an exit strategy with a value of 28% and productive intervention without an exit strategy (closed loop) with a value of 27%. Consumptive intervention without an exit strategy is holding 12% as the last alternative, which tends not to be recommended.

Figure 4. 28 The pair-wised comparison results on determining the most suitable alternative for improving financial decision making

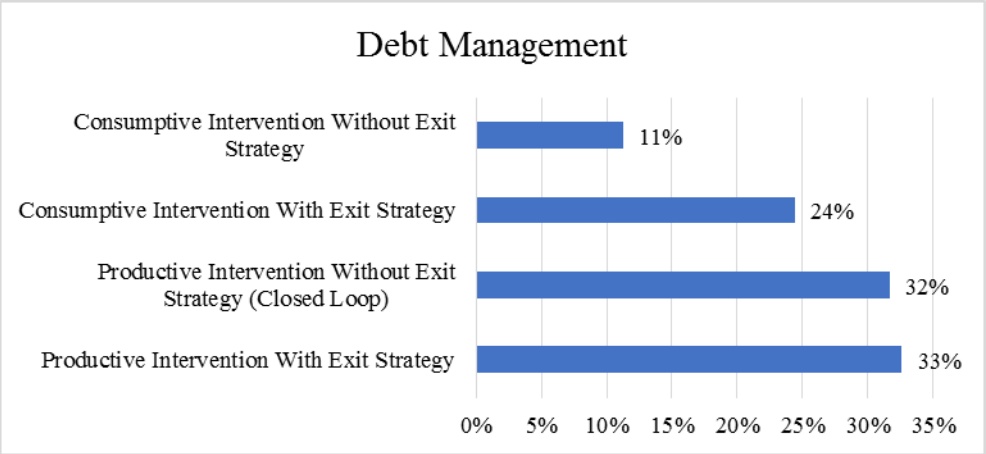


Source: author's data processing with expert choices

4.5.19 AHP Calculation Alternatives Statement for improving the Debt Management

The lives of poor farmers, who dominate unbanked people in the agricultural sector, are full of various situations that often result in them having to go into debt. In the picture 4.5.19 below, experts chose productive intervention with an exit strategy at a rating of 33% as the most appropriate effort to improve debt management in this segment. Slightly less different below is productive intervention without exit strategy (closed loop), which gets a rating of 32%. Consumptive intervention with an exit strategy is the next option, with a figure of 24%. The last and not recommended alternative is consumptive intervention without an exit strategy, which received the lowest rating, which is only 11%.

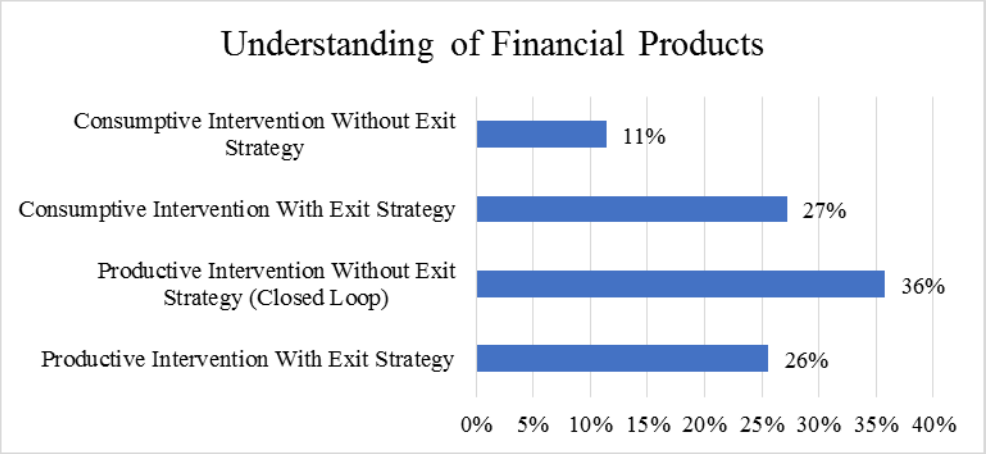
Figure 4. 29 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Debt Management



Source: author's data processing with expert choices

4.5.20 AHP Calculation Alternatives Statement for improving the Understanding of Financial Products

Figure 4. 30 The pair-wised comparison results on determining the most suitable alternative for improving the understanding of financial products



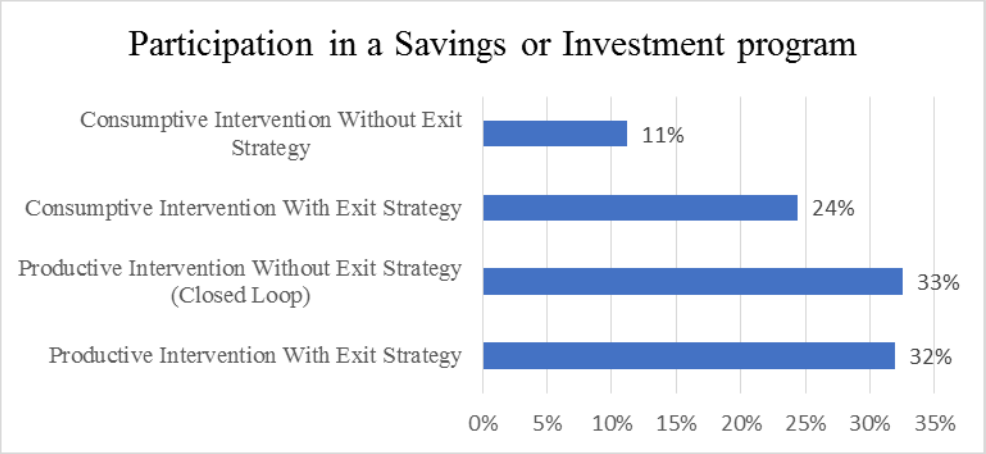
Source: author's data processing with expert choices

In the age of vast communication and technology, people will be exposed to various financing product offers, including the unbanked people of the agricultural/farming sector. This condition should be addressed with an improvement in the understanding of financial products, as it is one part of financial literacy that must be given sufficient attention. In the picture 4.5.20 above, experts agree that productive intervention without exit strategy (close loop) is the best alternative for improving the understanding of financial products,

with a rating of 36%. Meanwhile, consumptive intervention with exit strategy and productive intervention with exit interviews, with figures of 27% and 26%, respectively, were agreed to be the next alternatives. The last alternative is consumptive intervention without exit strategy, with a figure of 11%.

4.5.21 AHP Calculation Alternatives Statement for improving the Participation in a Savings or Investment program

Figure 4. 31 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Participation In A Savings Or Investment Program

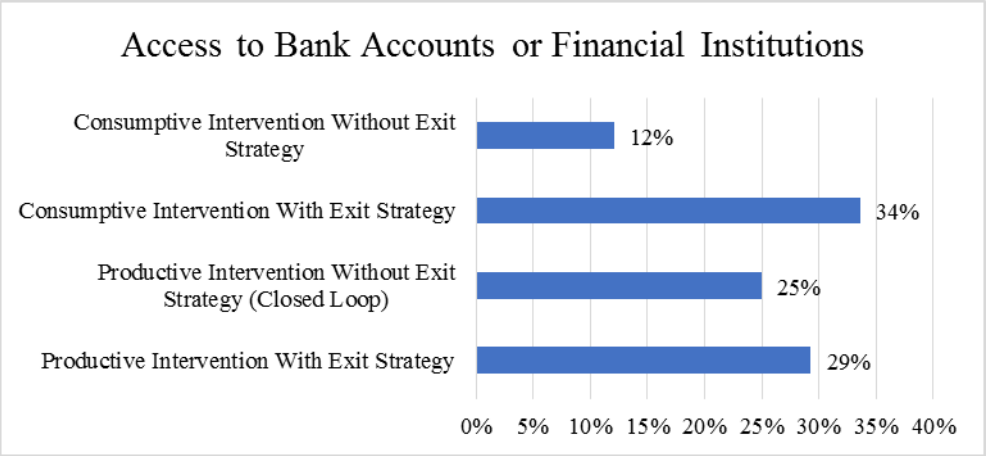


Source: author's data processing with expert choices

Participation in a savings or investment program is a sub-criterion of financial inclusion that has the highest expert rating on this criterion. In the picture 4.5.21 above, experts give a rating of 33% for productive intervention without exit strategy (closed loop), indicating that this intervention pattern is considered the most suitable for improving the participation in a savings or investment program among unbanked people in the agricultural/farming sector. The next alternative gets a value that is not much different, namely 32% for productive intervention with exit strategy. The alternative consumptive intervention with exit strategy ranks 3rd in this suitability with a figure of 24%. The last alternative that tends not to be recommended is consumptive intervention without exit strategy, with a value of 11%.

4.5.22 AHP Calculation Alternatives Statement for improving the Access to Bank Accounts or Financial Institutions

Figure 4. 32 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Access To Bank Accounts Or Financial Institution



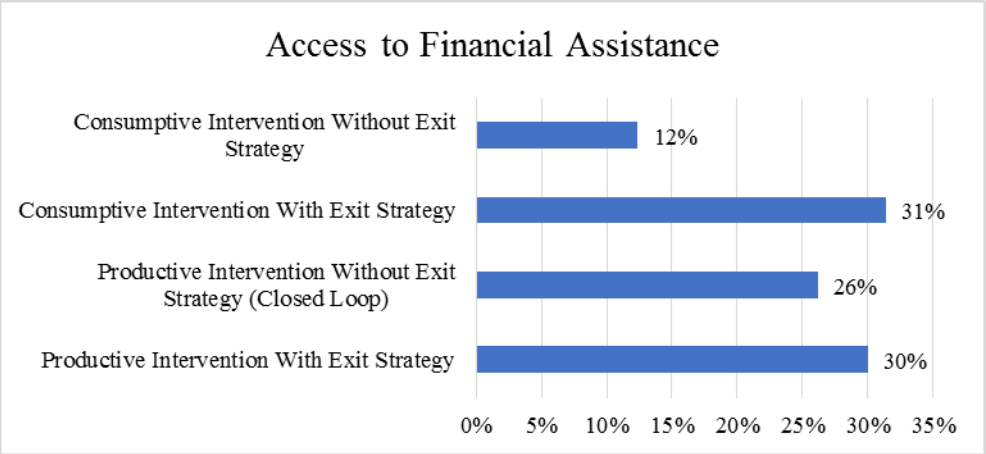
Source: author's data processing with expert choices

As seen in the picture 4.5.22 above, the highest suitability of alternative intervention patterns for improving access to bank accounts or financial institutions is given to consumptive intervention with exit strategy with a value of 34%, then productive intervention with exit strategy with a value of 29%, productive intervention without exit strategy (closed loop) by 25%, and the last alternative is consumptive intervention without exit strategy with a value of 12%.

4.5.23 AHP Calculation Alternatives Statement for improving the Access to Financial Assistance

The picture 4.5.23 below illustrates that consumptive intervention with exit strategy is the most suitable alternative for improving access to financial assistance at 31%, followed closely by productive intervention with exit strategy at 30%. Meanwhile, the productive intervention without exit strategy (close loop) holds the value of 26%, and the consumptive intervention without exit strategy is the last alternative with a value of only 12%.

Figure 4. 33 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Access To Financial Assistance

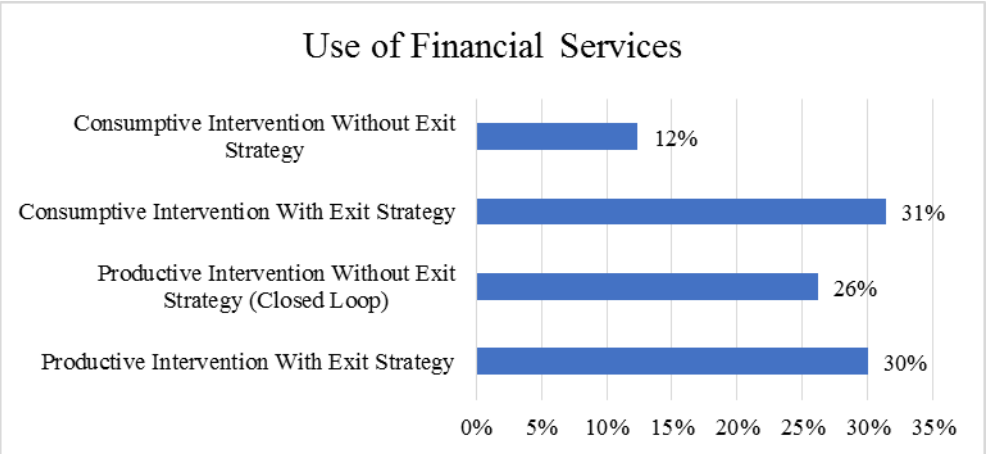


Source: author's data processing with expert choices

4.5.24 AHP Calculation Alternatives Statement for improving the Use of Financial Services

Experts provide ratings of the most suitable alternatives for improving the use of financial services, as seen in the picture 4.5.24 below. Consumptive intervention with exit strategy received the highest rating with a value of 31%, followed by productive intervention with exit strategy with a value of 30%, which only shows a slight difference with the first priority intervention. Productive intervention without exit strategy (closed loop) is the next alternative, with a value of 26%, and consumptive intervention without exit strategy is the last alternative, with a value of 12%.

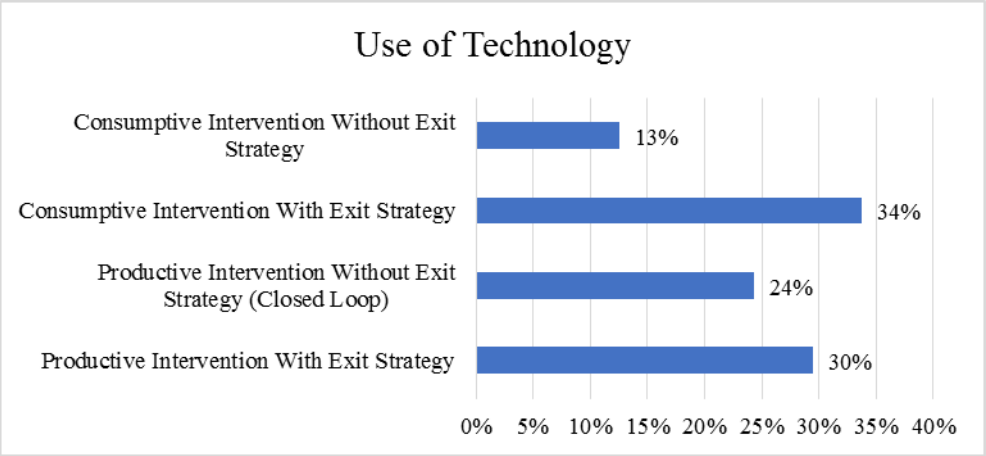
Figure 4. 34 The pair-wised comparison results on determining the most suitable alternative for improving the use of financial services



Source: author's data processing with expert choices

4.5.25 AHP Calculation Alternatives Statement For Improving The Use Of Technology

Figure 4. 35 The pair-wised comparison results on determining the most suitable alternative for improving the use of technology



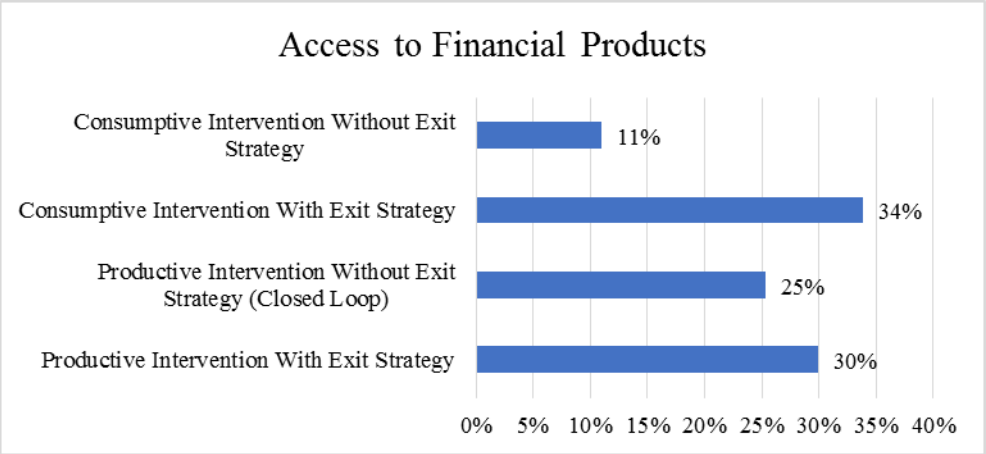
Source: author's data processing with expert choices

The picture 4.5.25 above shows the most suitable alternatives for improving the use of technology in financial inclusion. Consumptive intervention with exit strategy received the highest rating with a value of 34%, followed by productive intervention with exit strategy with a value of 30%. Productive intervention without exit strategy (closed loop) is the next alternative, with a value of 24%, and consumptive intervention without exit strategy is the last alternative, with a value of 13%.

4.5.26 AHP Calculation Alternatives Statement for improving the Access to Financial Products

The last sub-criterion in financial inclusion is access to financial products. From the picture 4.5.26 below, experts agreed to choose consumptive intervention with exit strategy as the most suitable one, with a value of 34%. It is followed by productive intervention with exit strategy for 30% ratings. Productive intervention without exit strategy (closed loop) is the next alternative, with a value of 25%, and consumptive intervention without exit strategy is the last alternative, with the lowest value of 11%.

Figure 4. 36 The Pair-Wised Comparison Results On Determining The Most Suitable Alternative For Improving Access To Financial Products



Source: author's data processing with expert choices

4.6 Finding and Discussion

4.6.1 The Exact Process of BSI Village

4.6.1.1 How to Determine Succes Phase in BSI Village

From the table 4.5.1.1. below, the success phase can be determined by the existing situation of elements in the 4th quadrant as the independent/driving category. There are five sub-elements as the driving power: financial/financing sector, the use of the zakat fund, harvest volume, the facilitator from the BSI Maslahat, and the government ruling the irrigation. As long as these sub-elements exist and exert a significant influence on other elements, the BSI village will succeed in achieving its objectives. This result is supported by the model on the influence of the Zakat Empowerment Program in the perception of beneficiaries for their productivity, financial literacy, and financial inclusion, where BSI Maslahat successfully deployed their intervention from 2019 to 2022.

Table 4. 36 The Elemental Categories of BSI Village

Quadrant Category		Elements	Sub-elements
Autonomous	1	I. The agencies involved in execution of the program	Partners (supplier non-member) of PP Gapsera
Dependent	2	A. The societal sectors affected	Social Sector
		D. The alterable which could be altered	Non-Technical Assistance
		I. The agencies involved in execution of the program	Buyer/Reseller of PP Gapsera
			Group Coordinator of PP Gapsera
			Member of PP Gapsera

Quadrant Category		Elements	Sub-elements
Linkage	3	A. The societal sectors affected	Agricultural Sector
			Education Sector
			Religious & Sprituality Aspects
		C. Major constraints	Farmer Commitments
			Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability
			Off Farm Markets
			Off Farming Capital Accessibility
			On Farming Capital Accessibility
		D. The alterable which could be altered	Exit Strategy from BSI Maslahat
			The engagement of Local Institution
			The use of another Fund
		F. The objectives measure to evaluate each objective	Access to Financing Products
			Debt Management
			Distribution of the group business profit portion in accordance with the established objective
		I. The agencies involved in execution of the program	Managers of PP Gapsera as the local institution
Independent/Driving	4	A. The societal sectors affected	Financial/Financing Sector
		D. The alterable which could be altered	The use of Zakat Fund
		F. The objectives measure to evaluate each objective	Harvest Volume
		I. The agencies involved in execution of the program	Facilitator from the BSI Maslahat
			Government ruling the irrigation

Moreover, there are fifteen sub-elements in the linkage category, acting as both influencers and highly influenced elements. The manager of PP Gapsera is the only agency in this category; they maintain the integrity of the BSI Village system through their dynamic interaction.

4.6.1.2 The Productive Intervention

Productive intervention is an intervention aimed at improving the economic productivity of beneficiaries, with a planned approach to eventually phase out support and enabling self-sustainability. In the context of BSI Village, this productive intervention described as two important activities consisting of increasing the production capacity, product and market development with the availability of group facility and assistances. The expert' rating also supporting

this definition and implementation, that productivity, with a value of 45%, is the most significant criteria in transforming unbanked people into active bankable person in the agricultural/farming sector.

The model in equations 4.1 and 4.2 tests the relationship between the zakat empowerment program's variables, the age of the beneficiary, the educational background of the beneficiary, and the income growth of the beneficiaries while participating in the program, and their productivity while managing agricultural land. From the regression process, significant results were obtained from the ZEP variable on productivity, meaning that the BSI Village Assistance Process was believed by farmers to increase productivity by 0.542 units as measured by the volume of harvest in tons, sales price in rupiah, and ease of access to planting capital. Every increase in education level will also increase productivity. The existence of three controlling variables can provide an illustration that the educational background profile has a significant effect when given a fixed category, so zakat empowerment programs should pay attention to differences in the educational background of farmers before designing productive interventions. Meanwhile, the two controlling variables that are not significant to productivity are the age and income growth of the beneficiaries, meaning that productive interventions related to productivity can be designed for beneficiaries with various age backgrounds and income growth.

The program elements that are connected to productivity can be seen in tables 4.3.1, 4.3.2, 4.3.3, 4.3.6, and 4.3.7. There are elements connected to productivity such as the agricultural sector, higher (profitable) sales price of grain/rice, farming capital accessibility, availability of workable farming areas, land conditions, fertilizer prices, seed prices, pest outbreaks and water availability, harvest volume, distribution of the group business profit portion in accordance with the established objective, and securing the working capital for rice mill operations. Those are elements that must receive attention when designing productive interventions. Based on considerations of driving power, dependence, and intervention priority, the following is the order of elements that are important to pay attention to when developing productive interventions that are expected to have an effect on increasing farmer productivity:

1. **The societal sectors affected**, especially the agricultural sector, which means not only rice cultivation but also all cultivation activities on land that are connected to farmers' daily activities. This includes existing

horticultural varieties, livestock, or fisheries that support each other. The intervention design must take into account the choice of planting methods and the overall optimization of agricultural yields. This sector has quite high driver power and linkage with all other sectors.

2. **Major constraints**, namely land conditions, fertilizer prices, seed prices, pest outbreaks, and water availability. When BSI Maslahat preferred a healthy farming method, several risks must also be mitigated, because each method has consequences. Based on the perceptions of beneficiaries, the consequences of healthy agriculture that is free of pesticides do not always make things easy for farmers. The outbreak then caused farmers to return to using chemical pesticides. The irrigation issue decided by the governor also causes farmers to have a limited planting period. On the other hand, fertilizer and seed prices are susceptible to rising during the planting season. It is important to consider all of these situations and prepare for mitigation.
3. **The objectives measure to evaluate each objective**. The important measures that must be ensured by the monitoring and evaluation mechanism is the harvest volume and distribution of the group business profit portion in accordance with the established objective. In the program intervention plan, an easy and controlled recording system should also be prepared to record the entire crop yield volume of the beneficiaries at each harvest. This is important because the size of harvest sales cannot be used as the only metrics. The local culture is farmers often do not sell 100% of their harvest because some of it is processed and stored for their own consumption. As for the distribution of the remaining profits from PP Gapsera's business, it is also important to record it continuously to ensure the distribution individually, because PP Gapsera membership allows for changes when situations arise that require members to resign or because of the mortality. This measurement then also influences the financial literacy and financial inclusion of the beneficiaries. Understanding the profit business process as a group with the position of business owner requires an adequate educational background; this is where the role of educational level becomes important when determining intervention steps.

4. **The need of the program**. Initially, the need for the program was about easy access to farming capital, but in the continuation of the program, there was an urgency related to the ratio of farming capital to its results because this is actually more impactful, and this is also supported by experts' ratings when deciding on important categories of productivity. Based on the survey of beneficiaries, the ratio obtained directly from the sale of grain and farming capital does not directly reflect the success of the intervention, but at least shows the potential for improving farmers' income. For this reason, the concentration of intervention should still be aimed at three important elements: a higher (profitable) sales price of grain or rice, farming capital accessibility, and the availability of a workable farming area. However, based on expert ratings, access to financial assistance with 31% rating as the most important categories of financial inclusion, is more appropriate when approached with consumptive intervention with exit strategy. Here the need arises for a blended model intervention. It is very possible if farming capital accessibility is also provided with the support of consumptive intervention as a way to reduce the burden of consumption, which has an impact on increasing income in the long term, because the beneficiaries have an appropriate amount time for their learning curve in managing their budget and needs. For this cause, budget management as the most important criteria in financial literacy (27%) plays its role.

4.6.2 The Tactical Intervention of BSI Village

4.6.2.1 The Urgency of Exit Strategy

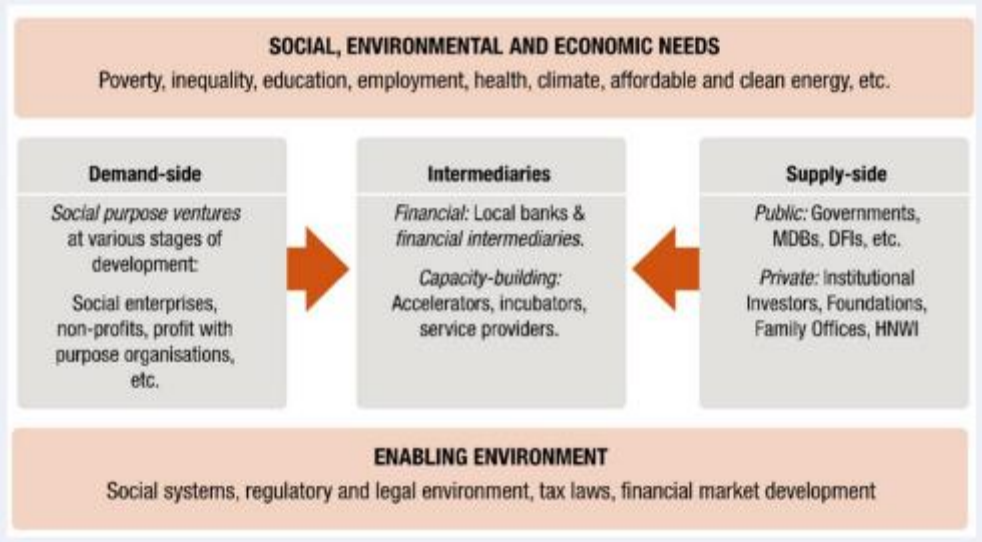
Facts on income declines by 2023 compare to 2021 can be seen from table 4.1.3 After the program termination in 2022, BSI Maslahat highlighted few impressive achievements, such as: participations in a saving program with a total of 152 numbers of accounts, transformation of mustahik into muzakki with a zakat amount of 20.2 tons of rice, or a total of IDR 89 million, and increasing land productivity from 4 tons of grain per hectare to 8 tons. However, this condition declined in 2023; only 32% of beneficiaries experienced income growth, and the average per capita income fell below the BPS poverty line.

The existence of exit strategy issue was coming from the interview process and validated by the experts with the result in figure 4.4.3.2.1. and 4.4.3.2.3. that

the exit strategy plays an important role and can be altered as it is categorized as alterable. For the purpose of this research, by definition of exit strategy is the availability of phase out or program termination, where all of the resources from program owner were transferred or withdrawn. The no exit strategy is differed for productive and consumptive. In the productive intervention, no exit strategy means reducing intervention into as minimum as possible, while keeping all of the important metric in the decision-making process or ecosystem. In other hand, the no exit strategy in consumption means continuous assistance with no ending ever.

Exit strategy in this study might also be connected to the sustainability development, to ensure the long term of positive impact from the intervention after the targeted output was achieved in year 2021 (table 4.1.3). The situation of PP Gapsera existence as a social enterprise, after program termination from BSI Maslahat actually fell upon the demand-side of the social impact investment market framework as shown in figure xx where the social needs as addressed in the objective of the program (table 4.4) were presence. On the supply side, capital providers were expected to have the interest in social impact investment as a way to diversify their investments and pursue social, as well as financial, goals (OECD, 2019). Within this framework, the no-exit strategy or close loop might be implemented as a social impact investment, where the program owner continues their role as intermediaries, focusing in the capacity building function.

Figure 4. 37 The OECD Social Impact Investment Market Framework

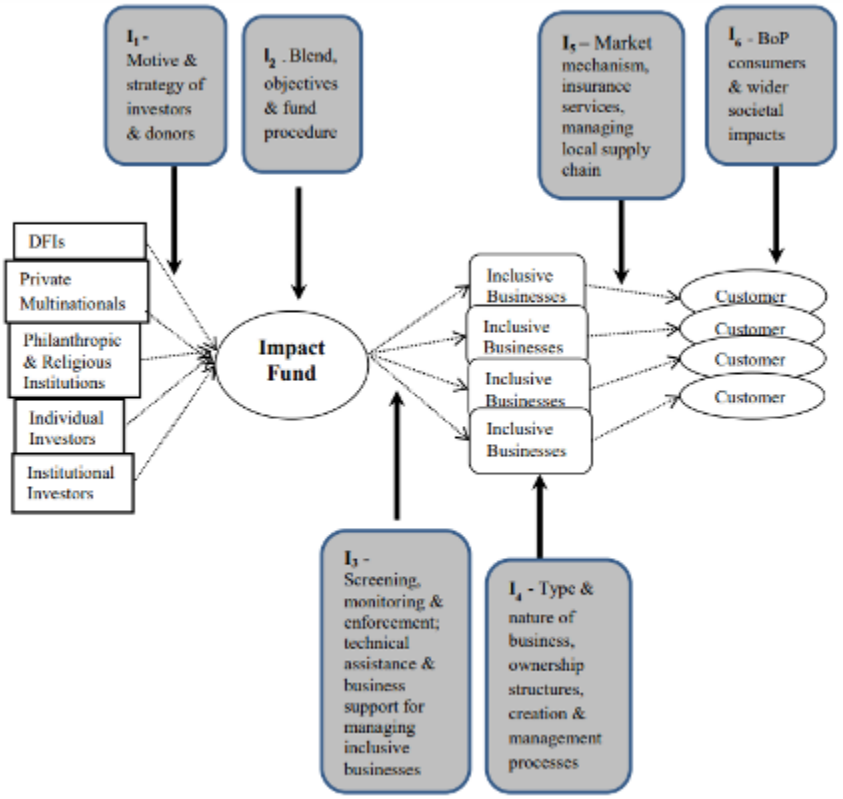


Source: OECD, 2019

Considering the nature of Islamic finance, Ngoasong et,al gave an ideal framework for understanding how impact funds are set up to create positive impacts for both investors, social enterprises, consumers and society as whole. This ideal framework is shown in figure xx, where the social enterprises are represented as inclusive business. This conceptual model aligned with the findings on the influence of zakat empowerment program to the productivity, and also how productivity as the driving category in the BSI Village program be the top priority in transforming the unbanked farmer into active bankable individuals from agricultural sector. The inclusive business that was succeeding market penetration and securing supply-chain considered as prospective and appealing to the investors, let alone the business also developed an impactful societal sector affected.

The use of social impact investing might give an insight to the terminology of economic entity for the activity of PP Gapsera. BSI Village as a system was managed by PP Gapsera for the purpose of well-structured economic purpose, and by definition PP Gapsera is more than a local institution/group, but it is an economic entity with complex function, process and outcomes.

Figure 4. 38 Understanding The Conceptual Model Of Impact Investing

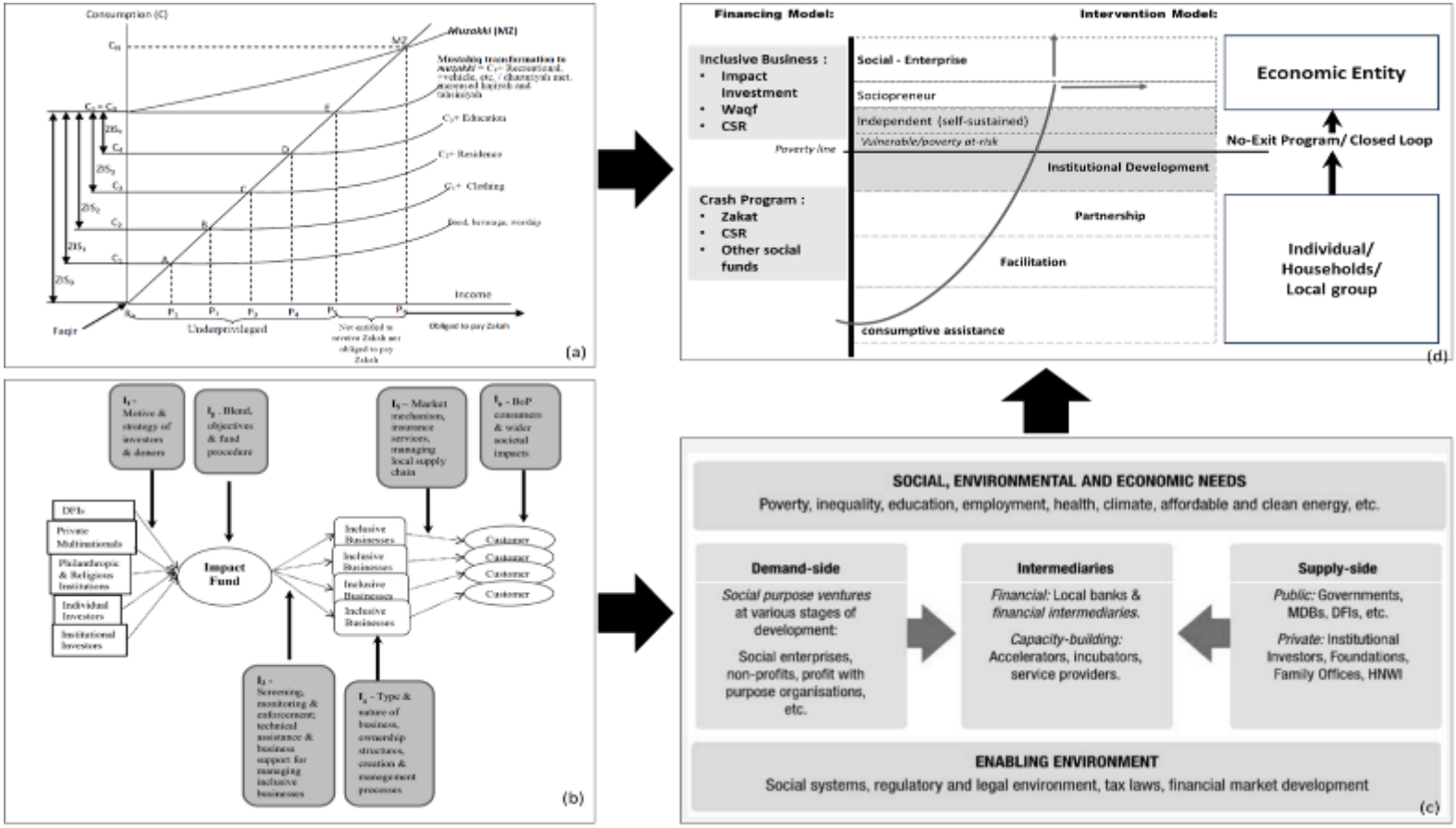


Source: Ngoasong, et.al, 2015

4.6.2.2 The Alternative on Exit Strategy

BSI Maslahat stated that the plan to include PP Gapsera with BSI Village in the productive waqf program was an exit strategy, considering that the actors involved have not changed. This could be categorized as a no exit strategy if the program does not terminate in 2022 and it was immediately continued with the waqf scheme. This plan can be categorized as an effort to create a close loop with a sociopreneur-based empowerment model. Elaborating the Manhard model, impact investing and OECD social impact framework to all elements and categories of programs and intervention alternatives, the model can be illustrated as follows:

Figure 4. 39 The Intervention Model for Zakat Empowerment Program with No Exit Program



Source: (a)Kusuma,et.al 2016; (b) Ngoasong, et.al, 2015; (c) OECD, 2019 ; (d)author's data, analysis & design

As mentioned in the discussion 4.5.1.2 above, securing the working capital for rice mill operations is an important activity to increase productivity in the BSI Village, and when the termination program persisted, it was hard for PP Gapsera to provide the need. Based on the figure 4.5.2.2. above, the close-loop intervention model can be seamlessly deployed with the profitable scheme of waqf, investment or other funds, and the thriving of successful transformation would be sustained.

4.6.3 The Key Actors and Lesson Learned

4.6.3.1 The Most Effective Way to Improve the Impact of Zakat

Based on table 4.5.1.1., there are two important actors that should be actively improving more space to run the intervention. The first is facilitators from BSI Maslahat and the second is PP Gapsera's management. Every effective way to improve the impact of zakat is depending on them. In figure 4.5.2.2. intervention since consumptive assistance (if any) until facilitation are controlled by the facilitator. In this phase, most of the beneficiaries might have some mental barriers to achieve productive intervention wholeheartedly. Facilitators play the vital function to maintain the participatory and well-coordinated activities among beneficiaries. Facilitators could maintain communication cross function and reduce the gap between stakeholders while assisting beneficiaries and local institution for effective planning, coordination, monitoring and evaluation, reducing as many constraints as possible. This kind of engagement with local institution also affecting non-technical assistance and involve training, coaching, mentoring or other capacity building activities.

From section 4.1, BSI Maslahat was relying on facilitators on the formation and establishment of business clusters based on local institutions owned by the beneficiaries. This includes group mentoring and the development of self-reliance among the members, which is fundamental for fostering entrepreneurial skills and confidence. The facilitators also supported PP Gapsera's management efforts for expansion of manufacturing capacity, product development, and market development follow, aiming to enhance the scope and scale of the businesses. For the partnership and institutional development phase, the role of PP Gapsera as the local institution was increasing compared to the role of facilitators at BSI Maslahat. In these phases, most of the activities were conducted by PP Gapsera,

and the facilitators could add some substantive methods and topics to foster the real business process or business model of the agricultural business operated.

Along with the productivity issue, financial literacy and financial inclusion also played important role, especially after the beneficiaries raised above poverty line. To achieve the self-sustained phase, PP Gapsera had some challenges as mentioned in table 4.5.1.1. in the elements of major constraints. This phase is crucial for PP Gapsera should be thriving without any resistance from beneficiaries. Based on figure 4.5.2.2. along with figure 4.5.3.2. the facilitators from BSI Maslahat shouldn't leave this phase (vulnerable/poverty at risk) immediately with no more intervention, especially when the capacity of PP Gapsera's management was not ready for non-technical assistance and surviving production while supporting the financial needs of beneficiaries. For the real business can be successful, the beneficiaries who are actually the shareholders should use their rights properly with some advance financial literation and some good experiences in financial inclusion. The priorities of financial literacy and financial inclusion are the concerns for BSI Maslahat to develop intervention without dominance, because it should be deployed by PP Gapsera to improve their capacity for this phase.

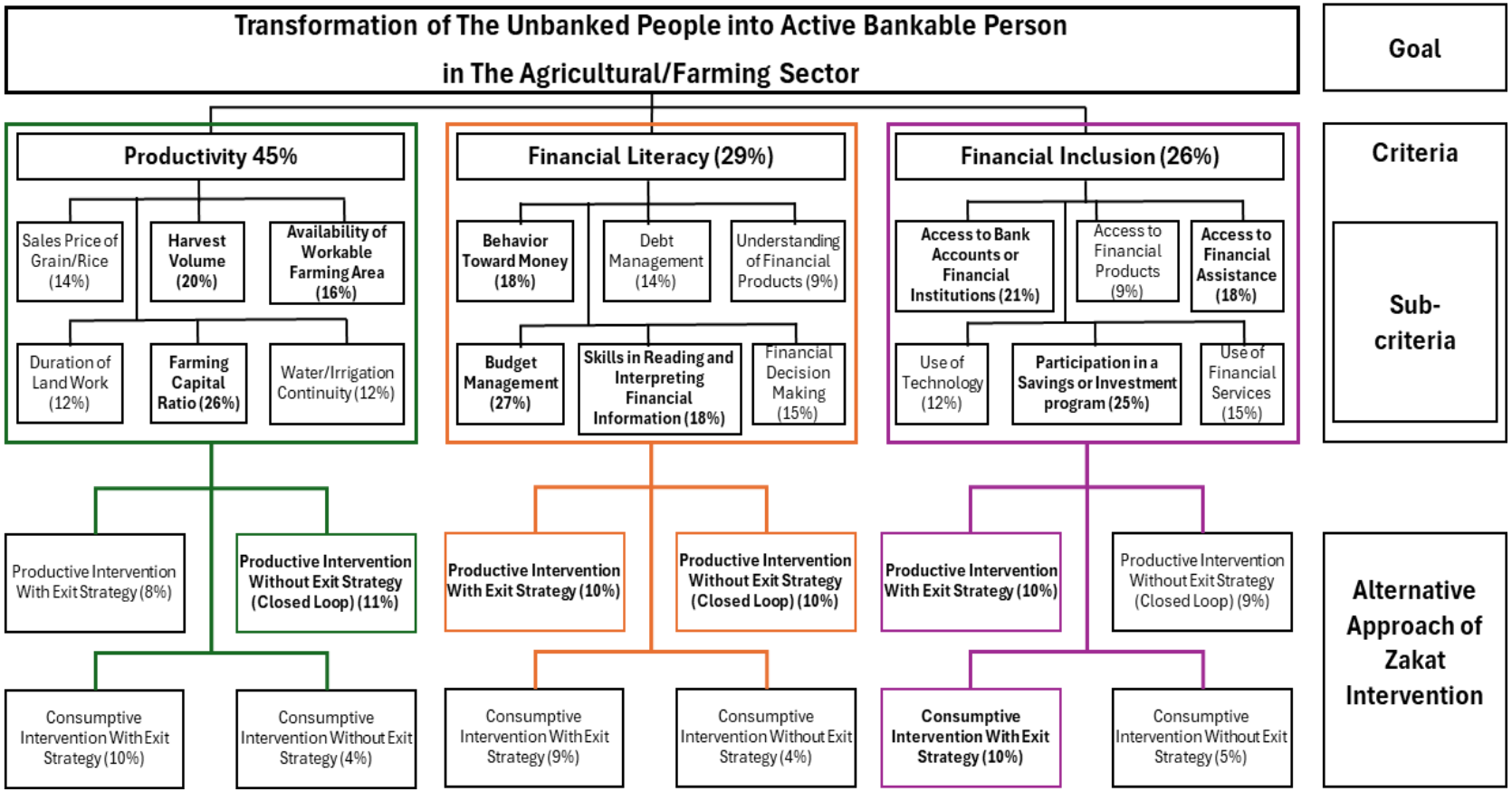
For the independent phase and above (figure 4.5.2.2.), BSI Maslahat might follow the capacity and characteristics of PP Gapsera before deciding the intervention and financing model. The involvement of other fund like waqf and bank investment should be calculated carefully and defining the risks from every element (figure 4.5.1.1.).

4.6.3.2 Potential Suggestion for Similar Initiative

According to figure 4.5.5.1, AHP analysis revealed that productive intervention without exit strategy (close-loop) is the most suitable alternative intervention for the transformation of the unbanked people into active bankable person. This decision was based on a thorough analysis on the impact of each intervention to productivity, financial literacy and financial inclusion.

If there is similar initiative, the criteria and sub-criteria from the AHP model can be used to assess initial condition from the targeted group and potential local institution persons. With a balanced consideration off all relevant factors, the program owner could have a transparent and justifiable decision-making process before planning the intervention. This process of choosing the suitable intervention will effectively support the goal's achievement.

Figure 4. 40 The Hierarchy Of Goals, Criteria, Sub-Criteria And Alternative Approach Of Zakat Intervention From The AHP Result



Source: Author's Data And Design

Meanwhile, the overall dynamic between variables of interests within every result is presented in the table below:

Table 4. 37 The Result Comparison of each variable from each method

Variables	Regression	ISM	AHP
ZEP	Zakat empowerment program (ZEP) is influential to productivity, financial literacy and financial inclusion.	There are 9 elements to describe BSI Village program as the implementation of ZEP and then reduced into 5 top influential elements.	Zakat empowering program should be delivered as productive intervention with no exit strategy to achieving the goals of transformation
P	Influenced by ZEP for 0.425 units and positively correlated with all other variables.	Indicators of productivity are falling into independent/ driving (harvest volume) and linkage categories (On Farming Capital Accessibility and Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability)	Productivity is the top priority in achieving goals by 45% weight. The priority sub-criteria of productivity in weightage are farming capital ratio (26%), harvest volume (20%), and availability of workable farming area (16%)
FL	Influenced by ZEP for 0.752 units and positively correlated with all other variables.	Indicator of financial literacy is falling into linkage category (Debt Management)	Financial literacy is the second priority in achieving goals by 29% weight. The priority sub-criteria in weightage are budget management (27%), behavior toward money (18%) and skills in reading and interpreting financial information (18%)
FI	Influenced by ZEP for 0.542 units and positively correlated with all other variables.	Indicator of financial inclusion is falling into linkage category (Access to Financing Products)	Financial inclusion is the last priority in achieving goals by 26%. The priority sub-criteria in weightage are participation in a savings or investment program (25%), access to bank accounts or financial institution (21%) and access to financial assistance (18%)

Source: author's data & analysis

CHAPTER 5:
CONCLUSION

5.1 Research Outcomes

This research answering some intriguing questions about the most effective way to improve the impact of zakat, who are the key actors in the process and how to determine the success phase. From the perception survey, the hypotheses are answered with six regression model. The intervention from BSI Village program is influential to productivity, financial literacy and financial inclusion.

From the interview and FGD, the BSI Village program was validated as productive intervention with exit strategy, and by the ISM analysis it was revealed that the exit strategy should be altered properly because the beneficiaries at risk to return below poverty line. Using AHP analysis, it was confirmed that productive intervention without exit strategy (close-loop) is the most suitable way to achieve the goals of transforming the unbanked people into active bankable persons in the agricultural sector.

ISM analysis also revealed the key actors and success phase in the process. Those were supported with AHP analysis, for the key actors are BSI Maslahat as the program owner with their facilitators and PP Gapsera's Management. These actors played crucial roles to execute all the consideration from the elements in the driving and linkage quadrant.

5.2 New Insight to The Efficacy of Zakat Empowerment Program

Zakat empowerment program can be deployed using both of productive and consumptive intervention as long as there are facilitating and assistances process within. The availability of exit strategy should consider the phase of mustahik transformation by their stable income and readiness to be empowered. The alternative of intervention model can be followed by financing model which affecting the designed exit or no exit strategy.

The nine elements from ISM analysis can be used to assess or planning the details of intervention. Each criterion and sub-criteria from productivity, financial literacy and financial inclusion are important to be considered in planning and execution of zakat empowerment program.

5.3 Suggestions

BSI Maslahat might consider to incorporate the no-exit strategy or close-loop model for improving BSI Village program, to maintain the positive impact of the self-sustained farmers. If there was a necessity to terminate zakat intervention, it should be followed seamlessly with other financing intervention and never terminate the facilitators' function. Facilitators is an important actor and has to be present even minimum.

Bank BSI could be the next actor in the process if BSI Maslahat choose the no-exit strategy and incorporating bank investment as impact investing model. Strongly recommend for Bank BSI to create the assistance model and creative financing for emerging sociopreuner or even social enterprises, not only as CSR but delivered as financing product.

The productive intervention itself needs huge number of resources, other OPZ should pay attention to prioritize the most important element first, and then the criteria. If it cannot be provided by one OPZ, the collaborative execution is another alternative. From the elements and criteria, OPZ might decide the collaborative scheme along with the logical framework analysis to validate the role of each collaborator.

Government ruling the irrigation for BSI Village in this research should be aware of various situation among farmers and might learn from this research outcomes to increase the accuracy in planning and executing irrigation. The timing and farming schedule are vital for farmers, respective government is expected to have an empathetic approach for every discretion and unusual upcoming.

5.4 Limitation and Further Research

This study has few limitations and opportunities for further research:

- BSI Maslahat has more than 20 locations of BSI Villages all around Indonesia, but the case study was conducted only in one program location which was in Rejo Asri, Lampung Tengah. Even though the findings provide important insights to the efficacy of zakat empowerment, but the conclusions might not be applicable for another BSI Village, and moreover another similar programs or another similar goals. The next research should confirm another BSI Village situation and validating each variable.

- The overall study population is small and not representing agricultural sector. The variances in the study are almost homogenous and not reliable to define the whole population in agricultural settings. The further research might involve larger sufficient sample with similar hypotheses or similar variables.
- This case study did not use any control group to make a viable comparison due to its technical limitation. With a proper duration of research and sufficient resources, the future research should include the effective control group and optimizing the findings furthermore.
- ISM analysis and AHP analysis are expert judgments approach and useful for defining systematic process and phenomena, but not powerful enough to create one theory or framework. The iteration from broader and specific experts is expected to provide some new theory in improving zakat empowerment program.
- Even though the context of zakat is the main discussion in this study, but the financial literacy and financial inclusion terminology in this study were not in the scope of Islamic finance. The next study might incorporate the specific Islamic financial literacy and Islamic financial inclusion to describe a more precise context for the development of Islamic finance.

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Appendix 1 Questionnaire for BSI Village Beneficiaries

Variable	Indicator	Item	No.
Demographic/ Profile	Usia	Range Umur	1
	Jenis Kelamin	L / P	2
	Jenjang Pendidikan	SD / SMP / SMA / S1 / S2 / S3	3
	Jumlah Anggota Keluarga	(Jiwa)	4
	Rerata saldo rekening bulanan	(Rp)	5
	Rerata hasil panen /Luas lahan yang dikel	o(Ton per Hektar)	6
	Rerata jumlah penghasilan per panen	(Rp)	7
	Rerata jumlah pengeluaran per bulan	(Rp)	8
Productivity	Volume hasil panen (Gabah Basah Ton/Ha) (Ngambeki, 1982)	Saya puas dengan volume hasil panen dari lahan yang saya kelola	9
		Hasil panen saya sesuai dengan target tanam pada luas lahan yang saya kelola	10
		Hasil panen saya mengalami peningkatan setelah mendapatkan pendampingan dari program Desa BSI di tahun 2019	11
	Harga penjualan hasil panen (Rp/ton) (Kayongo & Mathiassen, 2023) (Supartoyo, 2023)	Saya puas dengan penjualan hasil panen saya	12
		Harga penjualan hasil panen saya selalu diatas harga pasar	13
		Saya mendapatkan harga yang lebih baik setelah ada program dari desa BSI	14
	Jumlah modal tanam (Binswanger, 1993)	Modal tanam yang saya butuhkan selalu wajar untuk hasil yang saya peroleh	15
		Jumlah modal tanam yang saya butuhkan semakin efisien terhadap hasil panen setelah ada program desa BSI	16
	Akses modal tanam (Binswanger, 1993)	Program desa BSI memberikan jalan yang lebih mudah untuk ketersediaan modal tanam	17
	Durasi pengerjaan lahan (Ngambeki, 1982)	Pengerjaan lahan membutuhkan durasi dan jadwal tertentu untuk mendapatkan hasil panen maksimal	18
		Hasil panen saya setara wajar dengan durasi usaha pengerjaan lahan	19
		saya merasakan kemudahan dan optimalnya waktu pengerjaan lahan setelah ada inovasi dari program desa BSI	20
Financial Literacy	Pemahaman Konsep Dasar Keuangan (OJK, 2023)	Saya memahami konsep nilai uang dan bagaimana pengaruhnya terhadap berbagai produk pembiayaan dan tabungan pada umumnya	21
		Saya mengerti kenapa harga harga bisa semakin mahal	22
		Saya semakin mengerti berbagai urusan keuangan setelah ada program desa BSI	23
	Pengelolaan Anggaran	Pengeluaran saya sudah sesuai dengan besaran pendapatan	24

Variable	Indicator	Item	No.
	(OJK, 2023)	Saya memiliki rencana pengeluaran bulanan yang saya tepati sendiri	25
		Sebagian pendapatan saya sudah disisihkan untuk tabungan atau dana darurat	26
		Saya semakin tertib membelanjakan uang setelah ada program dari desa BSI	27
	Perencanaan Keuangan (OJK, 2023)	Saya memiliki rencana keuangan jangka panjang yang mencakup tujuan pensiun dan lainnya	28
		Saya mengerti cara membuat perencanaan keuangan setelah ada program desa BSI	29
		Saya mengerti pentingnya perencanaan keuangan setelah ada program desa BSI	30
	Investasi (OJK, 2023)	Saya mengerti hak hak saya terhadap kepemilikan usaha PP Gapsera dan bagaimana cara menggunakannya	31
		Saya mengetahui prinsip investasi setelah ada program desa BSI	32
		Saya menyadari harta saya bisa tumbuh melalui cara investasi	33
	Pengelolaan Utang (OJK, 2023)	Jika saya berhutang, maka saya harus memiliki strategi pelunasan yang masuk akal	34
		Jika saya berhutang, maka saya menghindari pembentukan utang baru	35
		Saya semakin menyadari resiko produk pembiayaan dan cara mengelolanya setelah ada program desa BSI	36
	Perlindungan Asuransi (OJK, 2023)	Saya memiliki asuransi kesehatan yang memadai untuk melindungi diri dan keluarga saya dari risiko kesehatan yang tidak terduga	37
		Saya mengerti jenis asuransi yang saya butuhkan sesuai jangka waktu dan risikonya	38
		Saya semakin mengerti pentingnya mengelola resiko terkait berbagai belanja kebutuhan tak terduga setelah ada program desa BSI	39
	Pemahaman terhadap Produk Keuangan (OJK, 2023)	Saya mengerti bahwa tabungan dan investasi adalah produk keuangan	40
		Saya tertarik mempelajari lebih lanjut tentang berbagai produk keuangan baru	41
		saya semakin sadar akan pentingnya pengetahuan tentang produk produk keuangan setelah ada program desa BSI	42
	Ketrampilan dalam Membaca dan Menafsirkan Informasi Keuangan (OJK, 2023)	Saya mampu membaca dan memahami dokumen kontrak seperti perjanjian atau ketentuan ketika menyepakati suatu transaksi keuangan	43
		Saya mengerti pentingnya catatan dan laporan keuangan	44
		Saya mendapatkan pengetahuan baru tentang informasi keuangan setelah ada	45

Variable	Indicator	Item	No.
		program desa BSI	
	Pengambilan Keputusan Keuangan (OJK, 2023)	Saya dapat membuat keputusan keuangan yang tepat berdasarkan pemahaman ynag kuat tentang situasi keuangan pribadi dan keluarga	46
		Saya mengerti berbagai resiko dan manfaat dari setiap keputusan keuangan yang akan diambil	47
		Saya belajar lebih banyak tentang keuangan setelah ada program desa BSI	48
	Perilaku Keuangan (OJK, 2023)	Saya terbiasa menabung atau menyisihkan uang secara teratur	49
		Saya selalu membandingkan harga harga sebelum melakukan belanja	50
		saya semakin tertib mengendalikan keuangan setelah ada program desa BSI	51
Financial Inclusion	Akses ke Rekening Bank atau Lembaga Keuangan (OJK, 2023)	Saya dapat dengan mudah membuka rekening tabungan di bank atau di lembaga keuangan	52
		Saya merasa nyaman menggunakan layanan perbankan atau keuangan yang tersedia di daerah saya	53
		Saya memiliki rekening bank atau rekening di lembaga keuangan setelah ada program desa BSI	54
	Penggunaan Layanan Keuangan (OJK, 2023)	Saya menggunakan rekening atau pembayaran digital untuk melakukan berbagai transaksi setiap bulannya lebih dari 3 kali	55
		Saya menggunakan layanan pembiayaan untuk mendukung usaha atau kebutuhan lainnya	56
		Saya aktif menggunakan layanan keuangan setelah ada program desa BSI	57
	Akses terhadap Produk Keuangan (OJK, 2023)	Saya memiliki akses terhadap layanan pembiayaan untuk memenuhi kebutuhan usaha ataupun kebutuhan darurat	58
		saya merasa yakin bahwa saya bisa mendapatkan layanan pembiayaan dengan syarat wajar jika saya membutuhkan	59
		Saya merasa mendapatkan kemudahan akses pembiayaan setelah ada program desa BSI	60
	Penggunaan Teknologi (OJK, 2023)	Saya menggunakan layanan keuangan seluler/digital untuk melakukan transaksi keuangan	61
		Saya merasa nyaman menggunakan teknologi keuangan untuk mengakses layanan keuangan	62
		Saya mengetahui penggunaan teknologi keuangan setelah ada program desa BSI	63
	Akses terhadap Pendampingan Keuangan (OJK, 2023)	Saya pernah mendapatkan edukasi tentang keuangan secara sistematis	64
		Saya memiliki akses terhadap layanan	65

Variable	Indicator	Item	No.
		atau dukungan untuk membantu mengelola keuangan	
		Saya semakin yakin mengelola keuangan keluarga setelah ada program desa BSI	66
	Partisipasi dalam program Tabungan atau Investasi (OJK, 2023)	Saya berpartisipasi dalam program tabungan atau investasi yang ditawarkan lembaga keuangan setempat	67
		Saya memiliki investasi atau tabungan jangka panjang yang membantu saya mempersiapkan masa depan	68
		Saya merasa aman berpartisipasi pada berbagai program layanan keuangan setelah ada program desa BSI	69

Appendix 2 Questionnaire for ISM Experts

Give a remarks according to the VAXO rules below:

V = element i has an effect on j, but j has no effect on i

A = element i has no effect on j, but j has an effect on i

X = i & j influence each other

O = i & j do not influence each other (no relationship)

The societal sectors affected

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
A1	Agricultural Sector					Social Sector	A2
A1	Agricultural Sector					Education Sector	A3
A1	Agricultural Sector					Financial/Financing Sector	A4
A1	Agricultural Sector					Religious & Sprituality Aspects	A5
A2	Social Sector					Education Sector	A3
A2	Social Sector					Financial/Financing Sector	A4
A2	Social Sector					Religious & Sprituality Aspects	A5
A3	Education Sector					Financial/Financing Sector	A4
A3	Education Sector					Religious & Sprituality Aspects	A5
A4	Financial/Financing Sector					Religious & Sprituality Aspects	A5

The need of the program

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
B1	Higher (Profitable) Sales Price of Grain/Rice					Farming Capital Accesibility	B2
B1	Higher (Profitable) Sales Price of Grain/Rice					Availability of Workable Farming Area	B3
B2	Farming Capital Accesibility					Availability of Workable Farming Area	B3

Major constraints

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
C1	On Farming Capital Accessibility					Off Farming Capital Accessibility	C2
C1	On Farming Capital Accessibility					Off Farm Markets	C3
C1	On Farming Capital Accessibility					Farmer Commitments	C4
C1	On Farming Capital Accessibility					Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability	C5
C2	Off Farming Capital Accessibility					Off Farm Markets	C3
C2	Off Farming Capital Accessibility					Farmer Commitments	C4
C2	Off Farming Capital Accessibility					Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability	C5
C3	Off Farm Markets					Farmer Commitments	C4
C3	Off Farm Markets					Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability	C5
C4	Farmer Commitments					Land conditions, fertilizer prices, seed prices, pest outbreaks and water availability	C5

The alterable which could be altered

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
D1	The use of Zakat Fund					The use of other Fund	D2
D1	The use of Zakat Fund					Non Technical Assistance	D3
D1	The use of Zakat Fund					Exit Strategy from BSI Maslahat	D4
D1	The use of Zakat Fund					The engagement of Local Institution	D5
D2	The use of other Fund					Non Technical Assistance	D3
D2	The use of other Fund					Exit Strategy from BSI Maslahat	D4
D2	The use of other Fund					The engagement of Local Institution	D5
D3	Non Technical Assistance					Exit Strategy from BSI Maslahat	D4

D3	Non Technical Assistance					The engagement of Local Institution	D5
D4	Exit Strategy from BSI Maslahat					The engagement of Local Institution	D5

The objectives of the program

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
E1	Improve farmer's income (profitability of farming)					Sustained the benefit of zakat funds being used	E2
E1	Improve farmer's income (profitability of farming)					Helping the farmer improving quality of their life	E3
E2	Sustained the benefit of zakat funds being used					Helping the farmer improving quality of their life	E3

The objectives measure to evaluate each objective

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
F1	Access to Financing Products					Harvest Volume	F2
F1	Access to Financing Products					Debt Management	F3
F1	Access to Financing Products					Distribution of the group business profit portion in accordance with the established objective	F4
F2	Harvest Volume					Debt Management	F3
F2	Harvest Volume					Distribution of the group business profit portion in accordance with the established objective	F4
F3	Debt Management					Distribution of the group business profit portion in accordance with the established objective	F4

The activities needed for the action plan

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
G1	sustaining the establishment of local institutions as the instrument for intervention					securing the working capital for rice mill operations	G2
G1	sustaining the establishment of local institutions as the instrument for intervention					strengthening the premium market	G3

G2	securing the working capital for rice mill operations					strengthening the premium market	G3

The activity measures to evaluate the results achieved from each activity

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
H1	Regular group meetings					Monitoring and evaluation of the rice mill business and farmer's income	H2
H1	Regular group meetings					Impact evaluation	H3
H2	Monitoring and evaluation of the rice mill business and farmer's income					Impact evaluation	H3

The agencies involved in execution of the program

No.	Sub Elements (i)	V	A	X	O	Sub Elements (j)	No.
I1	Managers of PP Gapsera as the local institution					Management and Facilitator from the BSI Maslahat	I2
I1	Managers of PP Gapsera as the local institution					Group Coordinator of PP Gapsera	I3
I1	Managers of PP Gapsera as the local institution					Member of PP Gapsera	I4
I1	Managers of PP Gapsera as the local institution					Government ruling the irigation	I5
I1	Managers of PP Gapsera as the local institution					Partners (supplier non member) of PP Gapsera	I6
I1	Managers of PP Gapsera as the local institution					Buyer/Reseller of PP Gapsera	I7
I2	Management and Facilitator from the BSI Maslahat					Group Coordinator of PP Gapsera	I3
I2	Management and Facilitator from the BSI Maslahat					Member of PP Gapsera	I4
I2	Management and Facilitator from the BSI Maslahat					Government ruling the irigation	I5
I2	Management and Facilitator from the BSI Maslahat					Partners (supplier non member) of PP Gapsera	I6
I2	Management and Facilitator from the BSI Maslahat					Buyer/Reseller of PP Gapsera	I7
I3	Group Coordinator of PP Gapsera					Member of PP Gapsera	I4
I3	Group Coordinator of PP Gapsera					Government ruling the irigation	I5
I3	Group Coordinator of PP Gapsera					Partners (supplier non member) of PP Gapsera	I6
I3	Group Coordinator of PP Gapsera					Buyer/Reseller of PP Gapsera	I7

I4	Member of PP Gapsera					Government ruling the irigation	I5
I4	Member of PP Gapsera					Partners (supplier non member) of PP Gapsera	I6
I4	Member of PP Gapsera					Buyer/Reseller of PP Gapsera	I7
I5	Government ruling the irigation					Partners (supplier non member) of PP Gapsera	I6
I5	Government ruling the irigation					Buyer/Reseller of PP Gapsera	I7
I6	Partners (supplier non member) of PP Gapsera					Buyer/Reseller of PP Gapsera	I7

Appendix 3 Questionnaire for AHP Experts

RESEARCH QUESTIONNAIRE
THE ROLE OF ZAKAT EMPOWERMENT PROGRAM IN TRANSFORMING THE UNBANKED POPULATION: CASE STUDY OF BSI VILLAGE PROGRAM

Dear respondent,

Signature,

Name :

Role :

Date :

We are conducting a study aimed at defining **the strategy of transforming unbankable poor farmer into actively bankable individuals through a zakat intervention program** from a case study. This study employs the Analytic Hierarchy Process (AHP) to systematically evaluate and prioritize various criteria and alternatives to achieve this goal effectively. The Analytic Hierarchy Process (AHP) is a structured technique for organizing and analyzing complex decisions. AHP helps decision-makers to model a problem in a hierarchical structure, compare factors pairwise, and derive priority scales. This method ensures that both qualitative and quantitative aspects of a decision are considered.

We have identified the following criteria that are crucial for achieving the goal of transforming unbankable poor farmer into actively bankable individuals through a zakat intervention program : **Productivity, Financial Literacy and Financial Inclusion**. Each main criterion is further divided into specific 6 sub-criteria to provide the details.

Based on the case study, we are considering the following intervention alternatives, each incorporating a facilitating program to enhance effectiveness: **Productive Intervention with Exit Strategy, Productive Intervention without**

Exit Strategy , Consumptive Intervention with Exit Strategy and Consumptive Intervention without Exit Strategy.

Your expertise in this field is extremely valuable for this study. We kindly ask for your participation in a pairwise comparison of the criteria and alternatives. This entails the process of evaluating each pair of factors and determining their relative influence or importance in relation to the objective. Your evaluations will assist in determining priority weights for each criterion and alternative, ultimately directing the decision-making process. Your thoughtful and honest responses will significantly contribute to the success of this study.

Thank you for your participation.

Best regards,
Citra Widuri

Technicalities:

1. Definition of terminologies

Terms	Definition
Productivity	The efficiency with which resources (such as labor, capital, and land) are utilized to produce agricultural outputs. It is often measured as the ratio of output to inputs used in production.
Sales Price of Grain/Rice	The market price at which grain or rice is sold, usually measured per unit weight (e.g., per kilogram or per ton).
Harvest Volume	The total quantity of grain or rice harvested from a specific area of land, typically measured in metric tons or bushels.
Farming Capital Ratio	The ratio of total capital invested to start farming (buying seeds, fertilizer, farming chemicals, labor, machinaries,water, etc) to the total value of agricultural output.
Duration of Land Work	The total time spent working on the land for agricultural activities, usually measured in days or hours per season or year.
Availability of Workable Farming Area	The amount of land that is suitable, available and attainable for farming activities.
Water/Irrigation Continuity	The consistent availability and reliability of water supply for irrigation throughout the farming season.
Financial Literacy	The ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing.
Budget Management	The process of creating, implementing, and overseeing a plan to spend money in a way that aligns with financial goals.
Debt Management	The ability to manage debt through strategies that include repayment plans and minimizing interest costs.
Financial Decision Making	The process of making informed choices about the allocation of financial resources.
Behavior Toward Money	The actions and attitudes individuals exhibit in managing their finances, the psychological mindset.

Terms	Definition
Skills in Reading and Interpreting Financial Information	The ability to understand and analyze financial statements and reports.
Understanding of Financial Products	Knowledge of various financial products such as loans, savings accounts, insurance, and investments.
Financial Inclusion	The process of ensuring access to appropriate financial products and services needed by individuals and businesses to manage their finances effectively.
Access to Bank Accounts or Financial Institutions	The ability to open and maintain a bank account or use services provided by financial institutions.
Access to Financial Products	The availability of financial products like loans, credit, insurance, and investment opportunities to individuals and businesses.
Access to Finance Assistance	The ability to receive consult in finance from professionals
Use of Technology	The application of digital tools and platforms to improve financial transactions and management.
Participation in a Savings or Investment Program	The act of regularly contributing to savings accounts or investment schemes.
Use of Financial Services	The engagement with services offered by financial institutions, such as banking, insurance, and investment services.
Productive Intervention With Exit Strategy	An intervention aimed at improving the economic productivity of beneficiaries, with a planned approach to eventually phase out support, enabling self-sustainability.
Productive Intervention Without Exit Strategy (Closed Loop)	An intervention focused on enhancing economic productivity, where continuous support is provided with sequenced reduction intervention and keeping the portfolio in the loop of contious business model/sociopreneurship
Consumptive Intervention With Exit Strategy	An intervention providing consumptive support (e.g., food aid, cash transfers) with a planned approach to gradually phase out support as beneficiaries achieve

Terms	Definition
	stability.
Consumptive Intervention Without Exit Strategy	An intervention that provides ongoing consumptive support without a planned phase-out, ensuring continuous assistance.

2. How to fill out

As you participate in the Analytic Hierarchy Process (AHP) questionnaire, it is important to understand how to use the 1-9 scale for pairwise comparisons. This scale is designed to help you express the relative importance or preference between two factors.

The scale ranges from 1 to 9, where specific values indicate the intensity of importance or preference. The scale can be broken down as follows:

- **Equal Importance (1)**: The two factors being compared are **of equal importance**.
- **Moderate Importance (3)**: Main factor is slightly more important than the other.
- **Strong Importance (5)**: Main factor is strongly more important than the other.
- **Very Strong Importance (7)**: Main factor is very strongly more important than the other.
- **Extreme Importance (9)**: Main factor is absolutely more important than the other.

(Main factor is term in bold that is mentioning first in the statements)

In addition to these primary values, the scale also includes **intermediate values (2, 4, 6, 8)** for situations where the importance is between the levels described above. These values are used when the importance lies between two adjacent judgments. For example, if you believe the importance is between moderate and strong, you can use the value 4.

You can put a **tick mark (√)** in your choosen column of value.

I. Main Criteria Statement	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productivity is more influential than **Financial Literacy** in the Transformation of The Unbanked People into Active Bankable Person in The Agricultural/Farming Sector									
Financial Literacy is more influential than **Financial Inclusion** in the Transformation of The Unbanked People into Active Bankable Person in The Agricultural/Farming Sector									
Financial Inclusion is more influential than **Productivity** in the Transformation of The Unbanked People into Active Bankable Person in The Agricultural/Farming Sector									

II. Sub Criteria of Productivity	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Sales Price of Grain/Rice is more influential than **Harvest Volume** for improving the Productivity of the unbanked farmer									
Harvest Volume is more influential than **Farming Capital Ratio** for improving the Productivity of the unbanked farmer									
Farming Capital Ratio is more influential than **Duration of Land Work** for improving the Productivity of the unbanked farmer									
Duration of Land Work is more influential than **Availability of Workable Farming Area** for improving the Productivity of the unbanked farmer									
Availability of Workable Farming Area is more influential than **Water/Irrigation Continuity** for improving the Productivity of the unbanked farmer									
Water/Irrigation Continuity is more influential than **Sales Price of Grain/Rice** for improving the Productivity of the unbanked farmer									

III.Sub Criteria of Financial Literacy	**1**	2	**3**	4	**5**	6	**7**	8	**9**
The understanding of **Budget Management** is more influential than **Debt Management** for improving the **Financial Literacy** of the unbanked farmer									
The understanding of **Debt Management** is more influential than **Financial Decision Making** for improving the Financial Literacy of the unbanked farmer									
The understanding of **Financial Decision Making** is more influential than **Behavior towards Money** for improving the Financial Literacy of the unbanked farmer									
Behavior towards Money is more influential than **Skills in Reading and Interpreting Financial Information** for improving the Financial Literacy of the unbanked farmer									
Skills in Reading and Interpreting Financial Information is more influential than **Understanding of Financial Products** for improving the Financial Literacy of the unbanked farmer									
Understanding of Financial Products is more influential than **Budget Management** for improving the Financial Literacy of the unbanked farmer									

IV.Sub Criteria of Financial Inclusion	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Access to Bank Accounts or Financial Institutions is more influential than **Access to Financial Products** for improving the Financial Inclusion of the unbanked farmer									
Access to Financial Products is more influential than **Access to Financial Assistance** for									

improving the Financial Inclusion of the unbanked farmer									
Access to Financial Assistance is more influential than **Use of Technology** for improving the Financial Inclusion of the unbanked farmer									
Use of Technology is more influential than **Participation in a Savings or Investment** program for improving the Financial Inclusion of the unbanked farmer									
Participation in a Savings or Investment program is more influential than **Use of Financial Services** for improving the Financial Inclusion of the unbanked farmer									
Use of Financial Services is more influential than **Access to Bank Accounts or Financial Institutions** for improving the Financial Inclusion of the unbanked farmer									

V. Alternatives Statement for Improving the Sales Price of Grain/Rice	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Sales Price of Grain/Rice of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Sales Price of Grain/Rice of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Sales Price of Grain/Rice of the unbanked farmer									

Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Sales Price of Grain/Rice of the unbanked farmer									

VI.Alternatives Statement for Improving the Harvest Volume	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Harvest Volume of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Harvest Volume of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Harvest Volume of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Harvest Volume of the unbanked farmer									

VII.Alternatives Statement for improving the Farming Capital Ratio	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Farming Capital Ratio of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Farming Capital Ratio of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Farming Capital Ratio of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Farming Capital Ratio of the unbanked farmer									

VIII.Alternatives Statement for improving the Duration of Land Work	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Duration of Land Work of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Duration of Land Work of the unbanked farmer									

Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Duration of Land Work of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Duration of Land Work of the unbanked farmer									

IX.Alternatives Statement for improving the Availability of Workable Farming Area	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Availability of Workable Farming Area of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Availability of Workable Farming Area of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Availability of Workable Farming Area of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Availability of Workable Farming Area of the unbanked farmer									

X.Alternatives Statement for improving the Water/Irrigation Continuity	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Water/Irrigation Continuity of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Water/Irrigation Continuity of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Water/Irrigation Continuity of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Water/Irrigation Continuity of the unbanked farmer									
XI. Alternatives Statement for improving the Budget Management	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Budget Management of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Budget Management of the unbanked farmer									

Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Budget Management of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Budget Management of the unbanked farmer									

XII.Alternatives Statement for improving the Debt Management	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Debt Management of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Debt Management of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Debt Management of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Debt Management of the unbanked farmer									
XIII.Alternatives Statement for improving the Financial Decision Making	**1**	2	**3**	4	**5**	6	**7**	8	**9**

Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Financial Decision Making of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Financial Decision Making of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Financial Decision Making of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Financial Decision Making of the unbanked farmer									

XIV.Alternatives Statement for improving the Behavior towards Money	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Behavior towards Money of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Behavior towards Money of the unbanked farmer									

Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Behavior towards Money of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Behavior towards Money of the unbanked farmer									

XV.Alternatives Statement for improving the Skills in Reading and Interpreting Financial Information	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Skills in Reading and Interpreting Financial Information of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Skills in Reading and Interpreting Financial Information of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Skills in Reading and Interpreting Financial Information of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Skills in Reading and Interpreting Financial Information of the unbanked farmer									

XVI.Alternatives Statement for improving the Understanding of Financial Products	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Understanding of Financial Products of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Understanding of Financial Products of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Understanding of Financial Products of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Understanding of Financial Products of the unbanked farmer									

XVII.Alternatives Statement for improving the Access to Bank Accounts or Financial Institutions	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Access to Bank Accounts or Financial Institutions of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Access to Bank Accounts or Financial Institutions of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Access to Bank Accounts or Financial Institutions of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Access to Bank Accounts or Financial Institutions of the unbanked farmer									

XVIII. Alternatives Statement for improving the Access to Financial Products	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Access to Financial Products of the unbanked farmer									

Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Access to Financial Products of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Access to Financial Products of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Access to Financial Products of the unbanked farmer									

XIX.Alternatives Statement for improving the Access to Financial Assistance	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Access to Financial Assistance of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Access to Financial Assistance of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Access to Financial Assistance of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Access to Financial Assistance of the unbanked farmer									

XX. Alternatives Statement for improving the Use of Technology	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Use of Technology of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Use of Technology of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Use of Technology of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Use of Technology of the unbanked farmer									

XXI. Alternatives Statement for improving the Participation in a Savings or Investment program	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Participation in a Savings or Investment program of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Participation in a Savings or Investment program of the unbanked farmer									

Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Participation in a Savings or Investment program of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Participation in a Savings or Investment program of the unbanked farmer									

XXII. Alternatives Statement for improving the Use of Financial Services	**1**	2	**3**	4	**5**	6	**7**	8	**9**
Productive Intervention With Exit Strategy is more suitable than Productive Intervention Without Exit Strategy (Closed Loop) for improving the Use of Financial Services of the unbanked farmer									
Productive Intervention Without Exit Strategy (Closed Loop) is more suitable than Consumptive Intervention With Exit Strategy for improving the Use of Financial Services of the unbanked farmer									
Consumptive Intervention With Exit Strategy is more suitable than Consumptive Intervention Without Exit Strategy for improving the Use of Financial Services of the unbanked farmer									
Consumptive Intervention Without Exit Strategy is more suitable than Productive Intervention With Exit Strategy for improving the Use of Financial Services of the unbanked farmer									

Appendix 4 Questions List for FGD and Interview

FOCUSED GROUP DISCUSSION QUESTION

Themes	Questions	Subject of Interview	No.
The societal sectors affected	Dalam pandangan Anda, sektor-sektor masyarakat mana yang kemungkinan akan terpengaruh oleh program ini?	Respected stakeholders	1
	Menurut Anda, sektor masyarakat mana yang paling membutuhkan perhatian dalam program ini?	Local group/Beneficiaries	2
The need of the program	Apa menurut Anda kebutuhan utama yang harus dipenuhi oleh program ini?	Local group/Beneficiaries	3
	Berdasarkan pengetahuan Anda tentang kondisi terkini, apa kebutuhan yang paling mendesak yang diatasi oleh program ini?	Experts	4
Major constraints	Apa menurut Anda kendala-kendala utama yang dihadapi dalam pelaksanaan program ini?	Respected stakeholders	5
	Apa hambatan atau kesulitan yang Anda alami dalam mengakses atau mengikuti program ini?	Local group/Beneficiaries	6
The alterable which could be altered	Apakah ada aspek-aspek dari program ini yang bisa diubah atau ditingkatkan untuk mengatasi kendala yang telah diidentifikasi?	Respected stakeholders	7
	Menurut Anda, apa yang dapat dilakukan untuk meningkatkan efektivitas	Local group/Beneficiaries	8

	program ini?		
	Menurut Anda apa pengaruh Zakat dalam program ini, bagaimana jika tidak didanai dari dana Zakat?	All	9
The objectives of the program	Apa tujuan utama yang ingin dicapai oleh program ini?	Respected stakeholders	10
	Bagaimana Anda melihat tujuan program ini berkontribusi terhadap perubahan yang diinginkan dalam masyarakat?	Respected stakeholders	11
	Bagaimana hubungan Zakat dalam tujuan program ini?	All	12
The objectives measures to evaluate each objective	Apa indikator konkret yang akan digunakan untuk menilai pencapaian setiap tujuan program?	Experts	13
	Bagaimana Anda mengukur keberhasilan pencapaian tujuan program ini?	Respected stakeholders	14

Criterias from ISM	**Questions**	**Subject of Interview**	**No.**
The activities needed for the action plan	Apa langkah-langkah konkret yang telah dilakukan untuk melaksanakan program ini?	Respected stakeholders	15
	Apa yang menurut Anda perlu dilakukan untuk mencapai tujuan program ini	Local group/Beneficiaries	16
The activity measures to evaluate the results	Bagaimana Anda akan menilai dampak dari setiap kegiatan yang dilakukan dalam program ini?	Experts	17

achieved from each activity	Bagaimana Anda akan mengukur efektivitas kegiatan yang telah dilakukan dalam mencapai tujuan program?	Respected stakeholders	18
The agencies involved in execution of the program	Siapa saja pihak-pihak yang terlibat dalam pelaksanaan program ini dan apa peran mereka?	Respected stakeholders	19
	Bagaimana Anda berencana untuk bekerja sama dengan mitra lainnya dalam menjalankan program ini?	All	20

List of FGD Participants:

No.	Name	Code Name	Role	Title
1.	Humairah Anahdi	HA	Experts	Strategic, Innovation & Transformation Manager of BSI Maslahat
2.	Dede Sukiaji	DS	Experts	ESG Manager of BSI Maslahat
3.	Sukarlin	Sk	Respected Stakeholders	Chairman of PP Gapsera
4.	Zainal Arifin	ZA	Respected Stakeholders	Secretary of PP Gapsera
5.	Rovita K.	RK	Respected Stakeholders	Finance and Treasury of PP Gapsera
6.	Nazeli Akmal	NA	Beneficiaries	Coordinator Beneficiaries from Group 2
7.	Usman Ali	UA	Beneficiaries	Coordinator Beneficiaries from

No.	Name	Code Name	Role	Title
				Group 4
8.	Langgeng Setia Budi	LSB	Beneficiaries	Coordinator Beneficiaries from Group 3
9.	Ahmad Afandi	AA	Beneficiaries	Beneficiaries from Group 4
10.	Supriyanto	Sp	Beneficiaries	Coordinator Beneficiaries from Group 6
11.	Rumini	Rm	Beneficiaries	Beneficiaries from Group 2

Appendix 5 AHP Experts List

AHP'S EXPERT LIST:

Expert 1: Bambang Suherman has been the chairman of Forum Zakat for two consecutive periods; he was one of Dompet Dhuafa's directors, but since April 2024, he has been the Deputy President of Human Initiative.

Expert 2: Ratna Komalasari is a Certified Financial Advisor and a senior researcher at Sakinah Finance. She is currently pursuing a doctorate at UIII.

Expert 3: Winarti Halim is the Ministry Attache of Agriculture at the Indonesian Embassy in Belgium; she got her PhD in Economics from the University of Edinburgh.

Expert 4: Urip Budiarto is the Deputy Director of Islamic Finance at KNEKS, with more than 15 years of experience in the field.

Expert 5: Rusdi Musa Ishak is the Innovation and Empowerment Director of BSI Maslahat. She was previously a senior banker at Bank BSI and holds a doctoral degree in Business Administration and Management.

Appendix 6 ISM Experts List

ISM EXPERTS LIST

Expert 1: Humairah Anahdi. Mrs. Humairah currently serves as Strategic, Innovation & Transformation Manager of BSI Maslahat, her experience of more than 15 years in the world of community empowerment makes her role in ensuring that the Zakat utilization program has an impact is very important. All strategic decisions at BSI Maslahat must be monitored by him first. He was one of the initiators of the BSM Village program in 2018, which later became BSI Village.

Expert No. 2: Eric Kurniawan

Mr. Eric is the chairman of Yayasan LMI UI, one of Zakat and Waqf's national foundations. He is also the branch manager for Bank BSI in Sidoarjo, East Java, one of Java's largest branches. Despite his extensive professional and organizational background, he has demonstrated outstanding academic achievement, earning a doctorate degree in Islamic economics with cum laude degree.

Expert 3: Dede Sukiaji. Pak Dede is the ESG Manager of BSI Maslahat. Based on POJK 51, Sharia Banks carry out CSR roles and functions through Corporate Zakat, in this case BSI Bank is managed by BSI Maslahat. Mr. Dede has a role in aligning the Zakat utilization program and BSI Bank's ESG interests. He was responsible for implementing the BSM Village program in 2018 which later became BSI Village.

Expert no. 4: M. Jaenudin

Mr. Jaenudin is the Collaborative and Program Partnership Manager from Laznas LMI, holds a Master degree in Islamic Economy, and has more than 5 years of experience in the Zakat Empowering Program for various approaches.

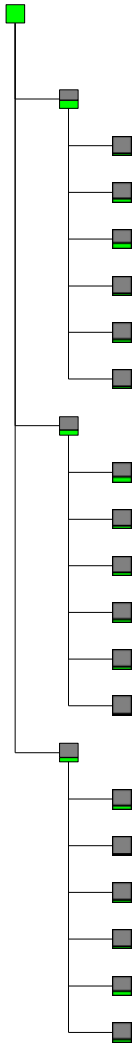
Expert No. 5: Amron Basuki

Mr. Amron is the HRD manager of PT. Agrofarm Nusaraya, one of the agricultural companies with a special project to empower farmers.

Appendix 7 AHP output from Expert Choices

Model Name: AHP - combined

Treeview



Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultural/Farming Sector

Productivity Sales Price of Grain/Rice Harvest Volume

Farming Capital Ratio Duration of Land Work

Availability of Workable Farming Area Water/Irrigation

Continuity Financial Literacy Budget Management Debt Management Financial Decision Making Behavior towards Money Skills in Reading and Interpreting Financial Information Understanding of Financial Products

Financial Inclusion

Access to Bank Accounts or Financial Institutions Access to Financial Products

Access to Financial Assistance Use of Technology

Participation in a Savings or Investment Use of Financial Services

Alternatives

Productive Intervention With Exit Strategy	,251
Productive Intervention Without Exit Strategy (Closed Loop)	,327
Consumptive Intervention With Exit Strategy	,293
Consumptive Intervention Without Exit Strategy	,129

* Ideal mode

Data Grid

Alternative	Total	Pairwise **Productivity Sales Price of Grain/Rice (L: ,135)**	Pairwise **Productivity Harvest Volume (L: ,199)**	Pairwise **Productivity Farming Capital Ratio (L: ,264)**
☑ Productive	,839	,5 7	,653	,642
☑ Productive	,907	,681	1,000	1,000
☑ Consumptive	,877	1,000	,585	,888
☑ Consumptive	,376	,298	,332	,310

Alternative	Pairwise **Productivity Duration of Land Work (L: ,124)**	Pairwise **Productivity Availability of Workable Farming Area (L: ,157)**	Pairwise **Productivity Water/Irrigation Continuity (L: ,120)**
☑ Productive	,997	,662	1,000
☑ Productive	,850	1,000	,956
☑ Consumptive	1,000	,699	,955
☑ Consumptive	,402	,449	,498

Alternative	Pairwise **Financial Literacy Budget Managemen (L: ,265)**	Pairwise **Financial Literacy Debt Management (L: ,143)**	Pairwise **Financial Literacy Financial Decision Making (L: ,150)**
☑ Productive	1,000	1,000	,868
☑ Productive	,933	,972	,839
☑ Consumptive	,958	,749	1,000
☑ Consumptive	,463	,348	,380

	Pairwise	Pairwise	Pairwise
Alternative	**Financial Literacy Behavior towards Money (L: ,178)**	**Financial Literacy Skills in Reading an Interpreting Financial Informati (L: ,176)**	**Financial Literacy Understanding of Financial Produ (L: ,087)**
☑ Productive	1,000	,962	,716
☑ Productive	,980	,884	1,000
☑ Consumptive	,760	1,000	,761
☑ Consumptive	,390	,403	,318

	Pairwise	Pairwise	Pairwise
Alternative	**Financial Inclusion Access to Bank Accounts or Financi Institutions (L: ,212)**	**Financial Inclusion Access to Financial Products (L: ,088)**	**Financial Inclusion Access to Financial Assistance (L: ,178)**
☑ Productive	,874	,886	,955
☑ Productive	,746	,750	,836
☑ Consumptive	1,000	1,000	1,000
☑ Consumptive	,359	,325	,394

	Pairwise	Pairwise	Pairwise
Alternative	**Financial Inclusion Use of Technology (L: ,120)**	**Financial Inclusion Participation in a Savings or Investment (L: ,252)**	**Financial Inclusion Use of Financial Services (L: ,152)**
☑ Productive	,873	,980	,955
☑ Productive	,719	1,000	,836
☑ Consumptive	1,000	,749	1,000
☑ Consumptive	,371	,345	,394

List of Participants

PID	PersonNam	Combined	Email	Participating	Eval	Location	Weight	Keypad	Wave	Password
1	Combined	☑		☑						
2	BS	☐		☑				2	1	
3	RK	☐		☑				3	1	
4	WH	☐		☑				4	1	
5	UB	☐		☑				5	1	
6	RMI	☐		☑				6	1	

PID	PersonName	ProgressStatus	EvalCluster	Organization	LastChanged
1	Combined				02/07/2024 20:18:32
2	BS				01/07/2024 19:22:02
3	RK				01/07/2024 19:36:56
4	WH				01/07/2024 19:49:20
5	UB				02/07/2024 19:47:45
6	RMI				02/07/2024 20:18:31

Priority Graphs

Priorities with respect to: **Combined**

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı

Productivity	,454
Financial Literacy	,287
Financial Inclusion	,259

Inconsistency = 0,00035
with 0 missing judgments.

Priorities with respect to: **Combined**

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı
>Productivity

Sales Price of Grain/Rice	,135
Harvest Volume	,199
Farming Capital Ratio	,264
Duration of Land Work	,124
Availability of Workable Farming Area	,157
Water/Irrigation Continuity	,120

Inconsistency = 0,00174
with 0 missing judgments.

Priorities with respect to: **Combined**

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı
>Productivity
>Sales Price of Grain/Rice

Productive Intervention With Exit Strategy	,207
Productive Intervention Without Exit Strategy (Closed Loop)	,273
Consumptive Intervention With Exit Strategy	,400
Consumptive Intervention Without Exit Strategy	,119

Inconsistency = 0,00028
with 0 missing judgments.

Priorities with respect to: **Combined**

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı
>Productivity
>Harvest Volume

Productive Intervention With Exit Strategy	,254
Productive Intervention Without Exit Strategy (Closed Loop)	,389
Consumptive Intervention With Exit Strategy	,228
Consumptive Intervention Without Exit Strategy	,129

Inconsistency = 0,00243
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Productivity
>Farming Capital Ratio

Productive Intervention With Exit Strategy	,226
Productive Intervention Without Exit Strategy (Closed Loop)	,352
Consumptive Intervention With Exit Strategy	,313
Consumptive Intervention Without Exit Strategy	,109

Inconsistency = 0,00029
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Productivity
>Duration of Land Work

Productive Intervention With Exit Strategy	,307
Productive Intervention Without Exit Strategy (Closed Loop)	,262
Consumptive Intervention With Exit Strategy	,308
Consumptive Intervention Without Exit Strategy	,124

Inconsistency = 0,00596
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Productivity
>Availability of Workable Farming Area

Productive Intervention With Exit Strategy	,235
Productive Intervention Without Exit Strategy (Closed Loop)	,356
Consumptive Intervention With Exit Strategy	,249
Consumptive Intervention Without Exit Strategy	,160

Inconsistency = 0,00077
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Productivity
>Water/Irrigation Continuity

Productive Intervention With Exit Strategy	,293
Productive Intervention Without Exit Strategy (Closed Loop)	,281
Consumptive Intervention With Exit Strategy	,280
Consumptive Intervention Without Exit Strategy	,146

Inconsistency = 0,00802
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Literacy

Budget Management	,265
Debt Management	,143
Financial Decision Making	,150
Behavior towards Money	,178
Skills in Reading and Interpreting Financial Information	,176
Understanding of Financial Products	,087

Inconsistency = 0,00197
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Literacy
>Budget Management

Productive Intervention With Exit Strategy	,298
Productive Intervention Without Exit Strategy (Closed Loop)	,278
Consumptive Intervention With Exit Strategy	,286
Consumptive Intervention Without Exit Strategy	,138

Inconsistency = 0,00722
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Literacy
>Debt Management

Productive Intervention With Exit Strategy	,326
Productive Intervention Without Exit Strategy (Closed Loop)	,317
Consumptive Intervention With Exit Strategy	,244
Consumptive Intervention Without Exit Strategy	,113

Inconsistency = 0,00372
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Literacy
>Financial Decision Making

Productive Intervention With Exit Strategy	,281
Productive Intervention Without Exit Strategy (Closed Loop)	,272
Consumptive Intervention With Exit Strategy	,324
Consumptive Intervention Without Exit Strategy	,123

Inconsistency = 0,0044
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Literacy
>Behavior towards Money

Productive Intervention With Exit Strategy	,320
Productive Intervention Without Exit Strategy (Closed Loop)	,313
Consumptive Intervention With Exit Strategy	,243
Consumptive Intervention Without Exit Strategy	,125

Inconsistency = 0,00486
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Literacy
>Skills in Reading and Interpreting Financial Information

Productive Intervention With Exit Strategy	,296
Productive Intervention Without Exit Strategy (Closed Loop)	,272
Consumptive Intervention With Exit Strategy	,308
Consumptive Intervention Without Exit Strategy	,124

Inconsistency = 0,00183
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Literacy
>Understanding of Financial Products

Productive Intervention With Exit Strategy	,256
Productive Intervention Without Exit Strategy (Closed Loop)	,358
Consumptive Intervention With Exit Strategy	,272
Consumptive Intervention Without Exit Strategy	,114

Inconsistency = 0,00099
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Inclusion

Access to Bank Accounts or Financial Institutions	,212
Access to Financial Products	,088
Access to Financial Assistance	,178
Use of Technology	,120
Participation in a Savings or Investment	,252
Use of Financial Services	,152

Inconsistency = 0,00086
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı
>Financial Inclusion
>Access to Bank Accounts or Financial Institutions

Productive Intervention With Exit Strategy	,293
Productive Intervention Without Exit Strategy (Closed Loop)	,250
Consumptive Intervention With Exit Strategy	,336
Consumptive Intervention Without Exit Strategy	,121

Inconsistency = 0,00374
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı
>Financial Inclusion
>Access to Financial Products

Productive Intervention With Exit Strategy	,299
Productive Intervention Without Exit Strategy (Closed Loop)	,253
Consumptive Intervention With Exit Strategy	,338
Consumptive Intervention Without Exit Strategy	,110

Inconsistency = 0,00309
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı
>Financial Inclusion
>Access to Financial Assistance

Productive Intervention With Exit Strategy	,300
Productive Intervention Without Exit Strategy (Closed Loop)	,262
Consumptive Intervention With Exit Strategy	,314
Consumptive Intervention Without Exit Strategy	,124

Inconsistency = 0,00409
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultı
>Financial Inclusion
>Use of Technology

Productive Intervention With Exit Strategy	,295
Productive Intervention Without Exit Strategy (Closed Loop)	,243
Consumptive Intervention With Exit Strategy	,337
Consumptive Intervention Without Exit Strategy	,125

Inconsistency = 0,00139
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Inclusion
>Participation in a Savings or Investment

Productive Intervention With Exit Strategy	,319
Productive Intervention Without Exit Strategy (Closed Loop)	,325
Consumptive Intervention With Exit Strategy	,244
Consumptive Intervention Without Exit Strategy	,112

Inconsistency = 0,00963
with 0 missing judgments.

Priorities with respect to: Combined

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultu
>Financial Inclusion
>Use of Financial Services

Productive Intervention With Exit Strategy	,300
Productive Intervention Without Exit Strategy (Closed Loop)	,262
Consumptive Intervention With Exit Strategy	,314
Consumptive Intervention Without Exit Strategy	,124

Inconsistency = 0,00409
with 0 missing judgments.

Synthesis: Summary

Combined instance -- Synthesis with respect to:

Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultural/Farming Sector

Overall Inconsistency = ,00

Productive Intervention With Exit Strategy	,280
Productive Intervention Without Exit Strategy (Closed Loop)	,302
Consumptive Intervention With Exit Strategy	,292
Consumptive Intervention Without Exit Strategy	,125

Compare the relative importance with respect to: Goal: Transformation of The Unbanked People into Active Bankable Person in The Agricultural/Farming Sector

Circle one number per row below using the scale:
1 = Equal 3 = Moderate 5 = Strong 7 = Very strong 9 = Extreme

1	Productivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Financial Literacy
2	Productivity	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Financial Inclusion
3	Financial Literacy	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	Financial Inclusion

Appendix 8 Respondent's Income Data

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Code Name	**Age**	**M/F**	**Edu**	**NoF**	**In 2018**	**In 2021**	**In 2023**	**Percaps 2018**	**Percaps 2021**	**Percaps 2023**	**imp 2021**	**imp 2023**	**imp 18 23**
309	44	M	SMP	4	795,000	973,600	3,000,000	198,750	243,400	750,000	0.22	2.08	2.77
306	54	M	SMP	5	639,375	1,040,000	2,400,000	127,875	208,000	480,000	0.63	1.31	2.75
311	66	M	SD	4	405,000	878,000	2,000,000	101,250	219,500	500,000	1.17	1.28	3.94
313	36	M	SMP	4	885,000	878,000	2,000,000	221,250	219,500	500,000	- 0.01	1.28	1.26
310	35	M	SMP	5	885,000	1,239,250	2,800,000	177,000	247,850	560,000	0.40	1.26	2.16
312	33	M	SD	1	352,500	1,209,800	2,600,000	352,500	1,209,800	2,600,000	2.43	1.15	6.38
304	32	F	SMA/SMK	4	705,000	1,310,700	2,750,000	176,250	327,675	687,500	0.86	1.10	2.90
316	50	F	SD	6	975,000	1,012,450	2,100,000	162,500	168,742	350,000	0.04	1.07	1.15
318	59	M	SD	4	280,000	1,235,650	2,500,000	70,000	308,913	625,000	3.41	1.02	7.93
320	56	F	SD	2	975,000	1,210,500	2,300,000	487,500	605,250	1,150,000	0.24	0.90	1.36
319	58	M	SD	4	615,000	1,371,600	2,600,000	153,750	342,900	650,000	1.23	0.90	3.23
216	48	M	SMA/SMK	4	975,000	628,000	1,150,000	243,750	157,000	287,500	- 0.36	0.83	0.18
412	60	M	SD	2	705,000	1,574,200	2,500,000	352,500	787,100	1,250,000	1.23	0.59	2.55
303	73	M	SMP	1	795,000	1,448,375	2,300,000	795,000	1,448,375	2,300,000	0.82	0.59	1.89
308	47	M	SD	4	975,000	1,943,250	2,800,000	243,750	485,813	700,000	0.99	0.44	1.87
104	45	M	SMA/SMK	4	420,000	705,625	1,000,000	105,000	176,406	250,000	0.68	0.42	1.38
301	64	M	SD	5	705,000	1,851,750	2,500,000	141,000	370,350	500,000	1.63	0.35	2.55
219	64	M	SMP	4	975,000	772,200	975,000	243,750	193,050	243,750	- 0.21	0.26	-
211	59	F	SMP	3	795,000	642,050	800,000	265,000	214,017	266,667	- 0.19	0.25	0.01
203	60	M	SMA/SMK	4	975,000	811,975	1,000,000	243,750	202,994	250,000	- 0.17	0.23	0.03
114	44	M	SD	5	1,041,750	1,499,650	1,628,000	208,350	299,930	325,600	0.44	0.09	0.56
314	35	M	S1	3	885,000	1,901,750	2,000,000	295,000	633,917	666,667	1.15	0.05	1.26
302	48	M	SD	5	885,000	2,378,750	2,500,000	177,000	475,750	500,000	1.69	0.05	1.82
208	50	F	SD	4	1,245,000	1,247,600	1,300,000	311,250	311,900	325,000	0.00	0.04	0.04
602	71	M	SD	7	427,500	2,467,625	2,500,000	61,071	352,518	357,143	4.77	0.01	4.85
212	70	M	SD	5	975,000	1,336,175	1,250,000	195,000	267,235	250,000	0.37	- 0.06	0.28
604	68	M	SD	3	922,500	1,609,000	1,500,000	307,500	536,333	500,000	0.74	- 0.07	0.63
603	53	M	D3	5	705,000	878,000	800,000	141,000	175,600	160,000	0.25	- 0.09	0.13
706	31	M	SMA/SMK	4	1,432,500	1,321,450	1,200,000	358,125	330,363	300,000	- 0.08	- 0.09	- 0.16
317	60	M	SD	3	1,410,000	3,258,975	2,800,000	470,000	1,086,325	933,333	1.31	- 0.14	0.99
204	48	M	SMA/SMK	3	975,000	1,187,525	975,000	325,000	395,842	325,000	0.22	- 0.18	-
109	50	F	SMA/SMK	3	618,750	1,548,275	1,250,000	206,250	516,092	416,667	1.50	- 0.19	1.02
102	65	M	SMP	2	975,000	1,765,050	1,400,000	487,500	882,525	700,000	0.81	- 0.21	0.44
105	35	M	SMP	5	397,500	5,431,900	4,300,000	79,500	1,086,380	860,000	12.67	- 0.21	9.82
315	70	F	SD	4	525,000	1,272,000	1,000,000	131,250	318,000	250,000	1.42	- 0.21	0.90
702	70	M	SD	2	975,000	645,775	500,000	487,500	322,888	250,000	- 0.34	- 0.23	- 0.49
411	53	M	SMA/SMK	6	975,000	1,359,000	1,025,000	162,500	226,500	170,833	0.39	- 0.25	0.05
209	60	M	SMP	4	1,065,000	1,614,875	1,200,000	266,250	403,719	300,000	0.52	- 0.26	0.13
307	32	M	SD	4	795,000	2,069,400	1,500,000	198,750	517,350	375,000	1.60	- 0.28	0.89
215	50	M	SMA/SMK	4	1,000,000	1,726,000	1,250,000	250,000	431,500	312,500	0.73	- 0.28	0.25
201	25	M	SMA/SMK	2	956,250	1,385,975	1,000,000	478,125	692,988	500,000	0.45	- 0.28	0.05
605	40	M	SMP	3	525,000	1,538,000	1,100,000	175,000	512,667	366,667	1.93	- 0.28	1.10
705	31	F	SD	4	615,000	1,421,900	1,000,000	153,750	355,475	250,000	1.31	- 0.30	0.63
402	50	M	SMP	3	705,000	1,138,500	800,000	235,000	379,500	266,667	0.61	- 0.30	0.13
404	64	M	SD	5	705,000	1,099,950	755,000	141,000	219,990	151,000	0.56	- 0.31	0.07
214	50	F	SMA/SMK	1	350,000	1,607,400	1,000,000	350,000	1,607,400	1,000,000	3.59	- 0.38	1.86
103	76	M	SMP	2	862,500	2,056,800	1,250,000	431,250	1,028,400	625,000	1.38	- 0.39	0.45
207	45	F	SMA/SMK	3	975,000	1,674,425	1,000,000	325,000	558,142	333,333	0.72	- 0.40	0.03
405	31	M	SMP	3	975,000	1,779,525	1,000,000	325,000	593,175	333,333	0.83	- 0.44	0.03
305	45	M	SMP	3	350,000	1,641,700	900,000	116,667	547,233	300,000	3.69	- 0.45	1.57
213	47	M	SMA/SMK	6	487,500	1,905,125	1,000,000	81,250	317,521	166,667	2.91	- 0.48	1.05
101	54	M	SMP	4	1,065,000	2,936,500	1,500,000	266,250	734,125	375,000	1.76	- 0.49	0.41
206	44	M	SMP	4	705,000	1,586,200	805,000	176,250	396,550	201,250	1.25	- 0.49	0.14
413	34	F	SMP	2	1,050,000	2,254,975	1,100,000	525,000	1,127,488	550,000	1.15	- 0.51	0.05
218	36	M	SMP	3	487,500	1,217,125	587,500	162,500	405,708	195,833	1.50	- 0.52	0.21
401	59	F	SD	2	352,500	863,400	405,000	176,250	431,700	202,500	1.45	- 0.53	0.15
410	82	M	SD	7	705,000	1,716,950	745,000	100,714	245,279	106,429	1.44	- 0.57	0.06
703	60	M	SD	5	405,000	1,295,650	550,000	81,000	259,130	110,000	2.20	- 0.58	0.36
409	55	M	SMP	5	615,000	1,851,675	750,000	123,000	370,335	150,000	2.01	- 0.59	0.22
217	78	M	SD	2	352,500	878,000	352,500	176,250	439,000	176,250	1.49	- 0.60	-
113	50	F	SD	3	975,000	3,610,150	1,330,000	325,000	1,203,383	443,333	2.70	- 0.63	0.36
108	55	F	SD	2	675,000	2,733,400	989,000	337,500	1,366,700	494,500	3.05	- 0.64	0.47
601	38	M	SMP	4	795,000	1,811,000	650,000	198,750	452,750	162,500	1.28	- 0.64	- 0.18
407	40	M	SMA/SMK	3	795,000	2,260,300	805,000	265,000	753,433	268,333	1.84	- 0.64	0.01
321	65	M	SD	4	345,000	1,435,300	500,000	86,250	358,825	125,000	3.16	- 0.65	0.45
406	64	M	SD	3	705,000	2,473,050	855,000	235,000	824,350	285,000	2.51	- 0.65	0.21
202	60	M	SD	3	307,500	1,170,600	400,000	102,500	390,200	133,333	2.81	- 0.66	0.30
414	46	M	SMA/SMK	1	240,000	1,675,000	550,000	240,000	1,675,000	550,000	5.98	- 0.67	1.29
408	33	M	SMP	2	510,000	1,536,400	500,000	255,000	768,200	250,000	2.01	- 0.67	- 0.02
106	50	F	SMP	4	675,000	3,255,550	987,000	168,750	813,888	246,750	3.82	- 0.70	0.46
701	40	M	SMP	4	393,750	1,527,100	450,000	98,438	381,775	112,500	2.88	- 0.71	0.14
111	40	F	SMP	5	487,500	3,295,350	928,000	97,500	659,070	185,600	5.76	- 0.72	0.90
704	74	M	SD	3	442,500	2,154,875	600,000	147,500	718,292	200,000	3.87	- 0.72	0.36
205	51	M	SD	3	705,000	1,448,375	400,000	235,000	482,792	133,333	1.05	- 0.72	- 0.43
210	42	F	SMA/SMK	5	397,500	1,860,000	500,000	79,500	372,000	100,000	3.68	- 0.73	0.26
112	52	F	SD	4	909,250	4,142,150	1,100,000	227,313	1,035,538	275,000	3.56	- 0.73	0.21
110	49	F	SD	4	1,270,000	7,344,100	1,529,000	317,500	1,836,025	382,250	4.78	- 0.79	0.20
403	55	F	SD	3	262,500	2,160,100	305,000	87,500	720,033	101,667	7.23	- 0.86	0.16
			Total Sum	284	57,196,625	136,998,325	104,931,000	18,084,177	43,741,356	33,987,188	139	- 7	83
			Average	4	733,290	1,756,389	1,345,269	**231,848**	**560,787**	**435,733**	**1.79**	**- 0.08**	1.07

Column Labels Note

1	**Code Name**	Name code of each respondents
2	**Age**	Chronological age of each respondents
3	**M/F**	Sex, Male (M) or Female (F)
4	**Edu**	Education
5	**NoF**	Number of Family members
6	**In 2018**	Monthly Income year 2018
7	**In 2021**	Monthly Income year 2021
8	**In 2023**	Monthly Income year 2023
9	**Percaps 2018**	Monthly Income percapita year 2018
10	**Percaps 2021**	Monthly Income percapita year 2021
11	**Percaps 2023**	Monthly Income percapita year 2023
12	**imp 2021**	Monthly Income percapita growth 2018 to 2021
13	**imp 2023**	Monthly Income percapita growth 2021 to 2023
14	**imp 18 23**	Monthly Income percapita growth 2018 to 2023