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Actors Synergy Model of The Ummah Economic Development Zone

AHMAD ZUBIR IBRAHIM[1], AZNITA SAMSI[2], and MOHD SAIFOUL ZAMZURI NOOR[3]

Abstract

The Ummah Economic Development Zone (ZPEU) is an initiative by the Kedah State Zakat Board (LZNK) through the paddy estate project, focusing on empowering farmers among the Asnaf in the agricultural sector. To strengthen the development of ZPEU, building strategic relationships among institutions involved in the rice production chain is a key strategy for increasing crop yields and improving the living standards of Asnaf. This paper aims to develop a synergy model for strategic relationships between stakeholders in the ZPEU project. This model fosters an environment where community and innovation can flourish, engaging all parties to create new jobs and enhance the standard of living for local communities through new products and services.

Keywords: *Ummah Economic Development Zone, Asnaf, Synergy Model, Stakeholders.*

INTRODUCTION

The economic development of the ummah is a governmental responsibility, particularly for governments of Muslim communities where a significant portion of the population belongs to the B40 group, including Asnaf and the poor. It is thus fitting for the government to design and implement an economic development plan aimed at helping these vulnerable groups escape the cycle of inherited poverty and contribute to improving the quality of life for other impoverished individuals. Such efforts can help narrow the income gap between the rich and the poor, fostering the well-being of the entire community.

The Ummah Economic Development Zone Project (ZPEU) by the Kedah State Zakat Board (LZNK) is a commendable initiative with four main objectives: (i) creating job opportunities for asnaf, (ii) establishing a new ummah ecosystem, (iii) generating a socio-economic cycle of "From Asnaf to Asnaf," and (iv) fostering innovation in asnaf development. However, the success of ZPEU hinges on the active involvement of all interested parties to ensure it meets its targets and contributes to the economic development of the local community.

UMMAH ECONOMIC DEVELOPMENT ZONE PROJECT (ZPEU)

The programme is an initiative of the LZNK and includes various projects in the areas of entrepreneurship, business, agriculture, qualifications and more. One of the projects under the ZPEU programme is the Large Scale Smart Sawah (SSBBA) project, which brings agricultural aspects closer to farmers among nurses and the poor in Kedah State. It is a pioneering project with the motto "from Asnaf to Asnaf" and incorporates aspects of human development. The SSBBA is implemented on a large scale using modern technology and introduces a mixed farming system in which participants also generate spin-offs from other agricultural activities such as fish farming, duck farming, and other sources of income.

The SSBBA project began in 2018 with land acquisition, management, and coordination of the various authorities related to the selection of participants. The project was first implemented in Yan, then in Alor Setar and Kubang Pasu, and is now being expanded to Sik, where it is entering the fifth phase of pea cultivation. The total number of participants has now reached 75 people who are known as farmer entrepreneurs, farming 6-11 villages with an income of up to RM2,400 per month.

[1] School of Government, Universiti Utara Malaysia, E-mail: AZUBIR@UUM.EDU.MY

[2] School of Economics, Finance and Banking, Universiti Utara Malaysia
[3] School of Economics, Finance and Banking, Universiti Utara Malaysia

The aim of LZNK through the implementation of this ZPEU is to drive enterprise development among the Asnaf by producing their rice for the sustainability of Asnaf rents until they eventually restore Kedah as the *Jelapang Padi* State. The program also aims to create employment opportunities for the Asnaf, develop a new economic ecosystem in the community, and create an "Asnaf to Asnaf" economic cycle that can transform Asnaf into Muzakki.

However, the impact of economic development after Islam is a comprehensive, summary, and objective impact of al-Falah for building a more civilized Ummah. According to Sidani, 92019), development requires improvements at various levels, including the regulatory, economic, educational, and social levels, which in turn requires a significant change in the human value system that guides its actions. The involvement of all stakeholders and actors concerned with the vulnerable groups of zakat institutions is very necessary based on the will of Shariah Maqasid, which is to fulfill the needs of *dharuriyyah, hajiyyah* and the secrecy of a human being. In addition, there is a need to investigate the extent to which this ZPEU journey, its effectiveness, and its ability to be a sustainable program have an impact that reaches a larger number of ethnic groups in Kedah in particular. Currently, the LZNK has an area of about 201.7 hectares in four districts: Dearah Kota Setar, Kuala Muda, Kubang Pasu, and Yan. Figure 1 shows the land area of LZNK in each of the four districts mentioned. Based on these four areas, Yan district is the largest mining land owned by LZNK with a total area of 89.6 hectares. Therefore, the Sala area in Dearah Yan was selected as the pioneer project for the SSBBA. One of the factors in favor of starting a project in this area was the suitability of the soil for growing peas.

The LZNK offers three types of land management packages as part of the SSBBA project. One of these is the SSBBA project, which was carried out on the LZNK's land. By 2024, LZNK-owned land in Yan district, Setar town, and Kubang Pasu will be fully utilized for the SSBBA project, while land acquisition is still underway in Kula Muda district. In addition, the SSBBA project can also be implemented on private land if the landowners have an area of at least 2 hectares and belong to the B40 category. Under this package, the LZNK will provide support in the form of rotating capital costs and they will be nominated as project participants by the LZ NK.

The third package is offered for all privately owned land that is to be expropriated or leased to LZNK. The package allows the LZNK to take over all agricultural work in the field and the next LZNC will nominate its participants in the B40 category. By mid-2023, the LZNK has managed to acquire land in the Chepir, Sik region amounting to 42 *relung* for lease so that the SSBBA project can start in this area by the end of 2023 with four selected Asnafters. Thus, the aim of this study is therefore to develop the synergy model among interest actors involved in project ZPEU.



Figure 1: Area of LZNK-owned paddy land by district

The implementation of ZPEU aligns with the principles and goals of Shariah, integrating into the five fundamental elements of Maqasid Shariah: the preservation of religion, life, intellect, lineage, and wealth (Che Halim et al., 2023). A detailed discussion of these five elements is provided in Table 1 below

Table 1: The ZPEU Project Framework is based on the Elements of Maqasid Sharia

Elements of Shariah Objectives	ZPEU Project Implementation
Religion	❖ This project targets the asnaf group specifically among B40 who are selected based on the *kifayah* limit set to be developed where the goal of this project is to create an economic cycle "from asnaf to asnaf". The approach played by LZNK in the selection of asnaf as participants coincides with the will of Islam, which is through the sariyat of zakat as a medium of resource distribution to the less fortunate based on the commandment that God explains in the Quran, surah at-Taubah, verse 60. ❖ With the implementation of this project, it gives the impression that Islam provides a complete financial and income management plan through the method of distributing zakat to selected asnaf based on their respective capacities and priorities (for example the poor and needy) as a guide for Muslims, also suitable for use by the entire community another. ❖ For the asnaf group involved as participants, they will be directly given attention in the form of monitoring and moral support by the LZNK through imams assigned in each district. This gives the impression that Islam as a whole also focuses on spiritual development and human capital, not just material aid solely to preserve the faith of each community no matter what the circumstances.
Soul/ Life	❖ The development of the ecosystem implemented can meet the basic needs of Asnaf with minimal cost. This is because the basic needs of asnaf for asnaf in the state of Kedah depend on the need for rice supplied by LZNK as their sustainability effort. ❖ The total kilogram of rice supply required by 578 Poor and Poor Food Distribution Centers (Food Bank) in the state of Kedah is 2,080,800 kg per year for 208,080 families. With the goal of the project that will establish LZNK's own rice mill, then the cost of zakat distribution to Asnaf can be reduced. ❖ This project aims to produce high-quality rice where rice is the main source of food for the people especially in Kedah and in Malaysia in general. This step reflects that the attention given by LZNK to the quality of rice is able to guarantee the best nutrition to the community as a measure to preserve life from the risk of lack of nutrients.

Elements of Shariah Objectives	ZPEU Project Implementation
Intellect	❖ The complete project plan includes capital and training for participants such as smart farming modules, downstream cropping methods, animal husbandry, and the use of new technology to produce "Smart Farmer" and "Empower Asnaf". ❖ This LZNK initiative is trying to change the mindset of the asnaf group to always try to find solutions to achieve self-success out of the poverty problem they are facing.
Ancestry	❖ The selected participants consist of heads of families who have dependents. The criteria for selecting participants set by LZNK gives the impression that the dependency of an asnaf family that wants to be helped and removed from the cocoon of poverty will produce a Muslim society that succeeds in developing their own human capital without continuing to expect mere help. ❖ This project does not only target the head of the family to be helped, but all family members are also involved whether it is their spouse or heir. The long-term goal of this project is to create and develop a new ummah economic ecosystem where the communities in this ZPEU, which are selected from various age groups, will continue to work on smart rice fields, work in factories, run eateries/restaurants and many more.
Property	❖ The participants were given Qard Hassan funding in Micro-Financing by Bank Islam Malaysia Berhad. This financing is able to guarantee a clean source of income without elements that are not allowed in Islam. In addition, every income per season received by participants will be directly deducted from zakat by LZNK. This will ensure that each participant protects his property because the goal of paying zakat itself is a method of purifying property. ❖ One of the main goals of this ZPEU project is to make asnaf who have been receiving zakat become zakat payers. This article explains the efforts towards finding good in the value of wealth through the income earned to help the whole community.

Source: Kedah State Zakat Board (2021)

Therefore, it is clear that this ZPEU project can be implemented in the management of zakat organizations so that the development value can improve human life as a caliph on earth (Che Halim et. al., 2023).

ACTOR SYNERGY MODEL

The development of strategic relationships among institutions that have authority along the rice production chain is one of the strategies to ensure the survival of rural farmers. Through this strategic relationship, measurements of economic growth, per capita income, unemployment, and poverty rates, will be able to be determined to assess the well-being of the target group. The transfer of technology and knowledge will be able to be transferred more effectively due to the existence of synergy between the implementing parties and the institutions involved. However, the fact is that synergy in the development of strategic relationships has not been optimally achieved and some gaps need to be improved for that purpose.

The approach to develop strategic relationships between implementers and authoritative agencies is the right step, where the combination of expertise, experience and the role of related agencies and companies will be able to optimize efforts to find a more comprehensive solution to improve rice production in the state of Kedah. Through that approach, this strategic relationship is not only able to deal with the current food supply problem but also ensure food security in the future, especially in the state of Kedah. The formation of synergy between LZNK and authoritative agencies will be a starting point for the country in ensuring sufficient food supply in the state of Kedah while reducing dependence on imported food supplies. The formation of this synergy is believed to be able to produce more agricultural entrepreneurs among asnaf in addition to increasing the production of the country's agricultural products.

Coordination through this strategic relationship will form a mutually complementary relationship with a win-win impact that will ultimately be able to lift the asnaf group out of poverty and thus the national food security issue can be reduced. Through the integration of information among stakeholders can indirectly change the supply chain which may have been dominated by certain parties. The majority of food industry players consist of small and medium-sized companies such as farmers and breeders who have very limited capabilities, including in terms of finances. Therefore, the strength possessed by the authoritative agency is capable of raising the standard and empowering the Asnaf group to ensure the production of food resources to an optimal level.

In addition to opening a new chapter in the food industry, this strategic relationship will create rice production that is based on more proactive food security and has a high innovation power and is not based solely on profit that is likely to benefit only one party.

QUADRUPLE HELIX MODEL

In creating a synergy model and strategic relationship among the authoritative parties in the rice crop among the asnaf, the Quadruple Helix Model (Figure 2) can be applied that purpose. The Quadruple Helix model can be seen as an improvement of the Triple Helix perspective that not only focuses on actors from academia, government, and industry but also recognizes the increased role played by civil society (Leydesdorff, 2012).

Arnkil et al. (2010) argue that the Quadruple Helix model as a user-oriented innovation approach. Carayannis and Campbell (2012) also argue that the Quadruple Helix model places a strong focus on collaboration in innovation and, in particular, dynamically interconnected processes. In fact, Sopacua and Primandaru (2020) also stated that the purpose of Quadruple Helix implementation is to focus on innovation mechanisms, economic growth and productivity as well as technology improvement. Following on from this, Cunningham, Menter, and O'Kane (2018) take an end-user perspective and see the fourth helix as a further key stakeholder group in this innovation system.

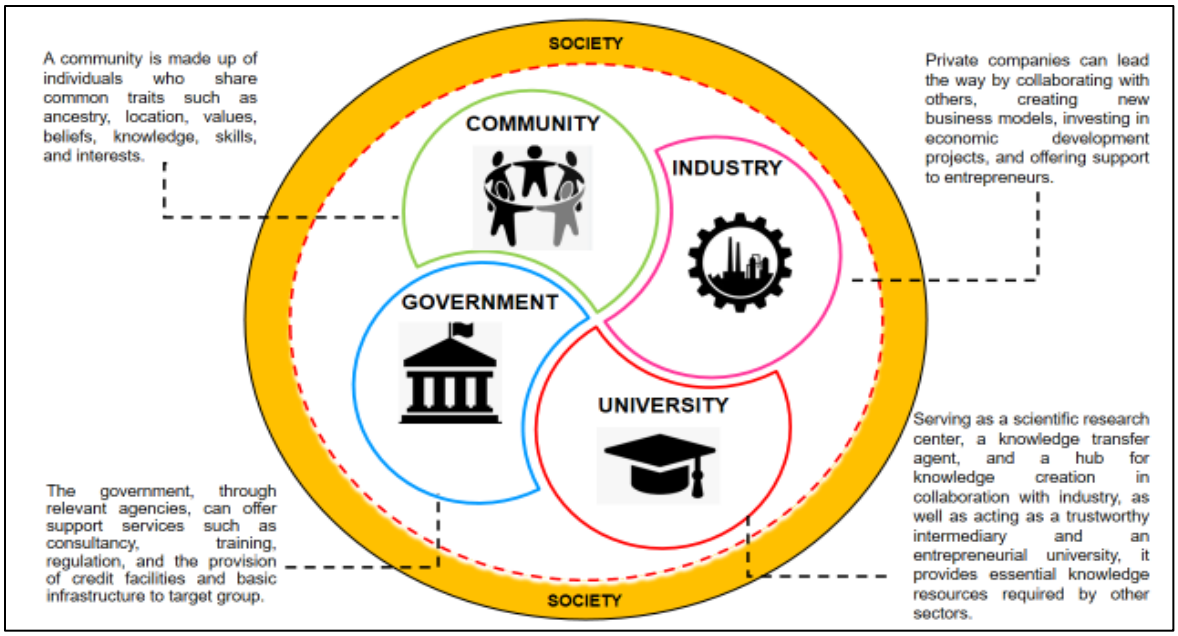


Figure 2: Quadruple Helix Model

This model also creates an environment where community and innovation can thrive with the joint involvement of educational institutions, industry, and government. This approach has become a priority for policymakers and politicians as innovation in communities is largely seen as a way to create new jobs and also improve living standards with new and improved products and services. At the same time, this model also creates a regional innovation system and also forms an understanding of how this innovation system works has been emphasized (Cooke, Uranga and Etxebarria, 1997) through the involvement of actors in the industry.

IMPLEMENTATION OF THE QUADRUPLE HELIX MODEL IN THE UMMAH ECONOMIC DEVELOPMENT ZONE (ZPEU)

Most studies argue that the approach between the main actors in the innovation system is important for knowledge transfer because knowledge in the innovation process is difficult to transfer to other places (Asheim and Isaksen 2002; Li et al. 2016). These studies focus on actors, often from a Triple Helix perspective, which distinguishes between actors from (1) academia/university, (2) government, and (3) industry (Etzkowitz and

Leydesdorff, 2000; Ranga and Etzkowitz, 2013; Strand, Ivanova, and Leydesdorff, 2016) or from the perspective of the Quadruple Helix which also includes the fourth helix which is consumers and civil society (Hoglund and Linton, 2018). The Quadruple Helix collaboration model is a way to achieve social, environmental, economic, cultural, policy, and knowledge sustainability to produce micro and macro-dynamic open innovation (Yun and Liu, 2019).

As explained above, the four actors who play an important role in the implementation of this model are (i) government (ii) industry (iii) university, and (iv) civil society. About that, in developing the economy of the community, especially asnaf farmers, it would be good if the Quadruple Helix model was implemented as a cohesive approach. For example, a study by Islam, Jerin, Hafiz, Nimfa and Abdul Wahab (2021) suggests the implementation of the Quadruple Helix model as a unique approach for small and medium-sized companies (SMEs) in Malaysia in facing the post-pandemic challenges of COVID-19. In fact, a case study at the Malaysian Agricultural Research and Development Institute (MARDI) by Mohd Noor, Ng and Abdul Hamid (2021) has already proven that three elements drive food security and sustainable paddy and rice research, namely (i) quality research by Research Institutions The public as an efficient dissemination agency in spreading knowledge to farmers, (ii) the cooperation of private companies in supporting the national agenda, and (iii) productive farmers in producing agricultural products. This is in line with the findings of a study in Semarang, Indonesia which shows that there is a synergy between the local government, academics, businessmen, and civil society which leads to an increase in the economic development of farmers in the study area (Soesilowati, Kariada and Margunani, 2017).

Government's Role

In the implementation of the Quadruple Helix model, the role of the government is very important to the success of this ZPEU Project. The government through relevant agencies can provide support services in the form of consultancy, training, regulation, or the provision of credit facilities and basic infrastructure (Ibrahim and Halim, 2009) to rice farmers. Yun and Liu (2019) and Hysa and Kruja (2022) also emphasize the same point where the government can contribute with financial support, legislation as well as control and monitoring of standards-compliant quality.

Mohd Noor et al. al. (2021) proved the role of MARDI as a government agency that offers consultancy services and knowledge dissemination agents to rice farmers to increase the productivity of rice production and thus increase their income. Soesilowati et. al. (2017) also examined the role played by the Local Government of the City of Semarang by providing capital in the form of agricultural land to be cultivated by farmers to find success. Meanwhile, Muzaqi and Hanum (2020) stated in a case study of developing the economy of the local community, the local government played a role by declaring Duren Sari Village in Trenggalek District, East Java as a legal and formal tourism area, as well as immediately promoting and training its residents to work their village as a tourist area. Next, the study of Dhewanto, Herliana, Yunita, Nur Rizqi, and Williamson (2020) proves the role played by the government in regulating laws related to food trade in achieving satisfactory food quality results.

Therefore, looking at the research evidence that describes the government's role in this Quadruple Helix model, it is appropriate that government agencies related to rice cultivation in the State of Kedah work together to ensure that this ZPEU Project is successful and can increase the income of asnaf.

Role of Industry

Apart from the role of the government, the second helix also has an equally important role in this Quadruple Helix model. M. Noor et. al. (2021) prove that cooperation from private companies is key in driving the national agricultural agenda towards resource self-sufficiency. In the implementation of the Quadruple Helix model, private companies can take the initiative by collaborating, developing new business models, making investments in economic development projects and providing support from entrepreneurs (Hysa and Kruja, 2022). This is in line with what was asserted by Suryana (2000) where Schumpeter stated that entrepreneurs are those who trigger the economic growth of a country. They are also innovators in the creation of (i) new products, (ii) new ways, (iii) new markets, (iv) new sources of raw materials, and (v) new organizational systems (Soesilowati et.

al., 2017). In fact, the role of private companies as innovators can influence consumer perception (Dhewanto et. al., 2020). In addition, industry also plays a role in the dynamics of the internal market as well as its openness (Sulikah, Mindarti, Sentanu and Hidayah, 2021).

Role of the University

The role of universities has evolved over the past 20 years. According to Gunasekaran (2004) quoted in Abd Razak and Saad (2007), basically, the university is known as an ivory tower institution that only focuses on traditional teaching and research practices and has almost no serious role in dealing with problems arising from the surrounding socioeconomic environment. However, today universities have progressively developed into a powerful driver of innovation in the field of science and technology due to the emergence of a knowledge-based economy (Abd Razak and Saad, 2007). In addition, universities play an important role in producing a highly educated community that is needed in this knowledge-based economy (Mat Lazim and Yusof, 2012). In fact, Gonzalez and Montoya (2019) acknowledge the role of universities as the backbone of the regional economy, where the contribution of universities in the development of innovation can be seen in developed countries such as the United States, Canada, European countries, South Korea, and Japan (Asmara, Kusumawardhani, and Hidayati, 2022). Goldstein, Maier, and Luger (1995) have identified 8 different functions for modern research universities that have an impact on economic development, namely (i) creation of knowledge, (ii) creation of human capital, (iii) transfer of existing knowledge (know-how), (iv) technological innovation, (v) capital investment, (vi) regional leadership, (vii) influence on the regional environment, and (viii) production of knowledge infrastructure (Mat Lazim and Yusof, 2012). Therefore, it would be a great loss if the university did not participate in the implementation of this ZPEU project.

According to Yun and Liu (2019), universities as the third helix act as scientific research centers, knowledge transfer agents, and knowledge creation centers together with industry, reliable intermediary agents, and entrepreneurial universities. Dhewanto et. al. (2020) also asserted that a university is an educational institution that provides basic knowledge resources needed by other helixes. In the study of Sulikah et. al. (2021) who want to develop the economy of the North Maluku region through Small and Medium Industries (SMEs), researchers suggest that the university organize education and training for existing and new entrepreneurs, become a business incubator center for new entrepreneurs, especially students and alumni to create business opportunities, as well as research and development of science and technology. This is because the involvement of the university will increase the utilization from the aspect of innovation and technology.

The Role of the Local Community

According to Tonnies (1887) quoted from Nordberg, Mariussen and Virkkala (2020), community is often referred to as a local community that holds certain values together, identity and local unity. In summary, Mayntz (2010) states that a community consists of a group of individuals who share certain characteristics such as ancestry, locality, values, beliefs, knowledge, skills and interests (Nordberg et. al., 2020). Therefore, Kolehmainen, Irvine, Stewart, Karacsonyi, Szabo, Alarinta and Norbergh, (2016) named the fourth helix as community which refers to local civil society. Meanwhile, Carayannis and Campbell (2009, 2010) named the fourth helix as "media and culture-based society" and "civil society". It is in line with the European Commission which defines the fourth helix as "consumers", "people" or "civil society". This definition indirectly emphasizes the value of democracy as part of the innovation process, where it does not exist in the Triple Helix model (Kolehmainen et. al., 2016). According to Dhewanto et. al. (2020) on the other hand, the term "society" in the context of the Quadruple Helix model covers non-profit organizations, non-governmental organizations, citizens or trade unions, where it has a role in determining cultural and social norms and as an informal investor. Therefore, it can be concluded that the fourth helix refers to civil society or the local community, where in this study the rice paddy farmers in Yan are the fourth helix of this Quadruple Helix model..

METHODOLOGY

This study is based on the case study ZPEU implemented by LZNK. For developing this model the qualitative method used in this study serves to identify the relationships between the selected actors. There are two forms of methods used to collect qualitative data for this study, namely the primary data collection method and the

secondary data collection method. For data collection through the secondary method, the researchers used the library method by collecting material from various important sources such as articles, journals, books, government documents, annual financial reports, press reports, and similar websites. The results of data analysis from the secondary sources used can facilitate the process of reviewing the highlights of the study, identify the problem of the study, and become a source for a clearer discussion of the interpretation process of the study data.

Next, the researchers used primary methods to obtain qualitative data. According to Parker (2004) and Wahyuni (2012), qualitative methods aim to obtain information, validate, and gain a deeper understanding of real-life situations. Therefore, the best way to confirm the situation is through personal communication with the person concerned.

As part of the study, a focus group discussion (FGD) will also be conducted among policymakers and development officials directly involved in the development of the ZPEU. The purpose of the FGD discussion is to obtain information from the interaction of the informant or respondent based on the results of group discussions that focus on holding discussions to solve a particular problem. The data or information obtained through this technique is not only group information, but also a group opinion and a conclusion. The advantage of the FGD method is that it provides more in-depth information and adds value to the data that is not achieved when using the questionnaire method. The interview guide/interview protocol for this study is therefore developed according to the relevance and the objective of the study that the researcher has created. Each interview protocol will be validated in advance through the assessment of experts and secondary sources such as articles and highlights of previous studies.

To form a synergistic model of ZPEU stakeholders based on the arguments and empirical evidence of previous studies on the implementation of the Quadruple Helix Model. In addition, the primary data from the results of this study were summarised into a model. In developing this model. The ZPEU framework becomes a reference for the study, which is identified through the relationships between the actors, analysing the problems through the chosen strategic core, i.e. the role of each agency. The results of the studies obtained through the surveys conducted and the findings from the group discussions are analysed and then form a synergy model of the ZPEU actors.

COMMUNITY ECONOMIC DEVELOPMENT ZONE (ZPEU) STAKEHOLDER ACTOR SYNERGY

Currently, the implementation of the Ummah Economic Development Zone is moving beyond the capacity and strength of LZNK in managing the implementation of this program. Nevertheless, the involvement of agencies involved in the management of rice crops has existed but is not managed systematically. Although there is an indirect interest actor relationship, the need to synergize these actors is necessary to form links and cooperation between LZNK and the agencies involved. This synergy must be needed to create the continuity of this project.

If observed, LZNK previously focused more on strategic partner relationships that were more focused on cooperation networks with financial institutions and research. The situation and needs of financial institutions at that time may be due to the financing of loan funds for the development of the human capital of the Asnaf group. However, with the implementation of the ZPEU, the LZNK needs to evaluate and re-examine the active cooperation relationship with stakeholders. This matter is important to refine to determine the relationship of cooperation with stakeholders so that it is more conducive and has an overall impact on the development of ZPEU.

A direct relationship chain with actors in the agricultural sector, especially rice crops, is necessary to create and strengthen synergy and this food production chain in a more conducive manner. If you look at the relationship with actors with specific interests in the rice crop, it exists indirectly and unknowingly. This is because ZPEU is located in the rice granary area and has received irrigation and infrastructure facilities for a long time, resulting in less attention being paid to the agencies involved in managing the rice crop. To ensure the survival of ZPEU in the long term, the direct involvement of agencies such as the Muda Agricultural Development Authority, Padiberas Nasional Berhad, Department of Agriculture, Malaysian Agricultural Research and Development

Institute, Farmers Organization Authority and other agricultural institutions is necessary to form a continuous collaboration network with LZNK. With the expertise possessed by each of these actors, they will be able to further enhance the sustainability of ZPEU. At the same time, the relationship with the industry that supplies additional fertilizers, agricultural machinery, and insecticides needs to be improved to ensure the continuity of this program.

Based on this study, found that the current practice collaboration between actors for ZPEU is based on Figure After using the quadruple helix model, the actors classify according to the function and niche area. This situation will help to support the synergy between the actors ZPUE (Figure 4).



Figure 3: Current Practice Collaboration among actor

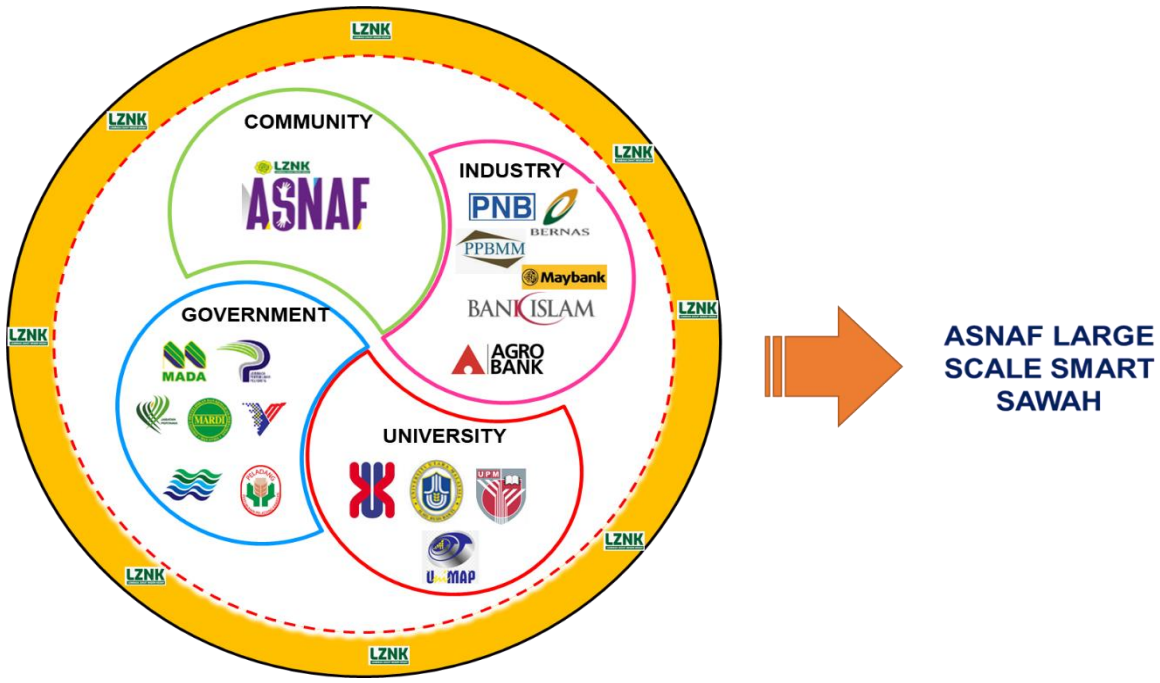


Figure 4: Actor Synergy Model

DISCUSSION AND POLICY IMPLICATION

The ZPEU initiative by LZNK aims to ensure national food security while creating employment opportunities for the Asnaf group. This initiative aligns with the National Agro Food Policy 2.0, which targets rice self-sufficiency rates of 75% by 2025 and 80% by 2030. To achieve these targets, various efforts have been undertaken by multiple stakeholders to ensure the availability of this essential food staple and meet the growing demand. The Kedah State Zakat Board (LZNK) has taken proactive steps to develop a large-scale Community Economic Development Zone (ZPEU) using modern technology through the SMART SBBA Asnaf LZNK initiative. This project encompasses 201.7 hectares of paddy farmland owned by LZNK, spanning four main districts: Kota Setar, Kuala Muda, Kubang Pasu, and Yan.

This study, also proposes that LZNK develop an actor consortium and use blockchain technology in ZPEU.

Development of the ZPEU Stakeholder Consortium

In the long term, LZNK needs to build continuous synergy with stakeholders through consortium development. In this consortium, the relationship with each interested actor needs to be translated through a Memorandum of Understanding (MOU). Through the MOU, interested actors can know their respective roles and functions in developing the ZPEU as a Figure 5.

As the main player in the initiation of ZPEU, LZNK needs to expand the role of the Zakat Office in each district as a grassroots action body. At the same time, investment in the use of technology in ZPEU needs to be expanded to increase the competitiveness of this food production. To ensure the competitiveness of ZPEU, a smart partnership or smart partnership through consortium should be developed by LZNK as an intermediary in developing ZPEU and further freeing Asnaf from the cycle of poverty. This matter should be paid attention to ensure that the network and relationships formed during the day will continuously have an impact and return to LZNK in general and the country's food production in particular. Involvement and cooperation through material thrust will facilitate the implementation of ZPEU development.

The continuous effort is not only in the production of rice plants but includes downstream crops and training needs to be streamlined and improved. This matter is important to ensure the continuity of food production and further increase the resilience of the Asnaf group to get out of the poverty line. This model can not only

be applied at the LZNK level but also across parties involved in developing the human capital of the poor or low-income groups.

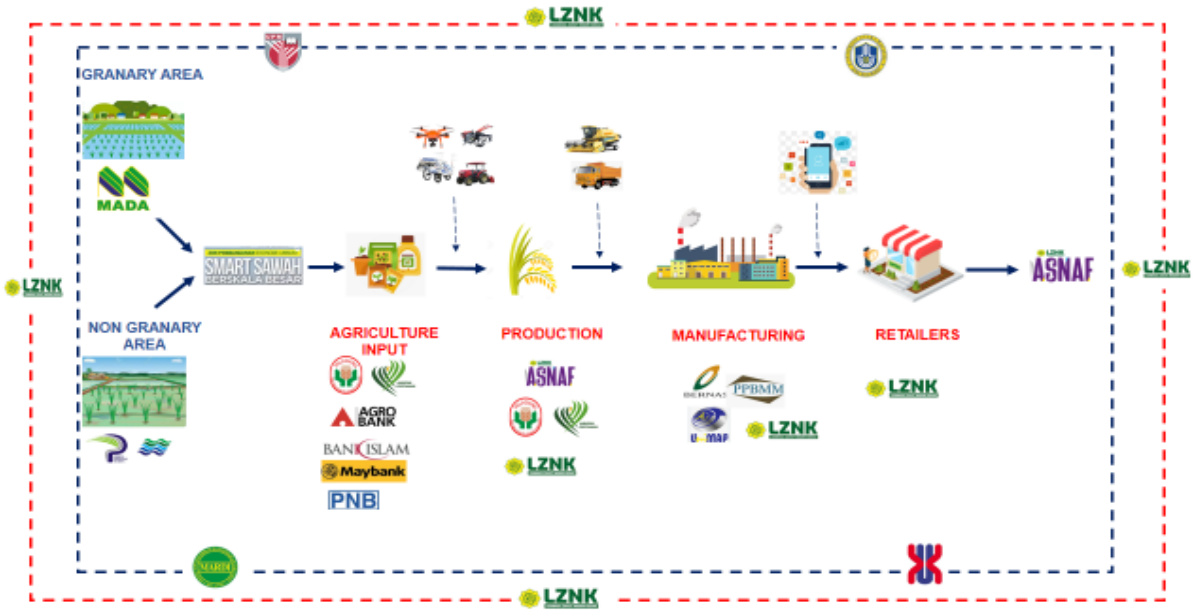


Figure 5: Relationship among actors through the consortium

LZNK Kedah State Zakat Board

BERNAS *Padiberas Nasional Berhad*

PNB *Permodalan Nasional Berhad*

BANK ISLAM Bank Islam Malaysia Bhd

AGRO BANK Agro Bank

Maybank Maybank

Farmers Organization Authority

MARDI Malaysian Agricultural Research and Development Institute

Department Of Agriculture

Farmers Organization Area

Department of Irrigation and Drainage

MADA Muda Agricultural Development Authority

Universiti Utara Malaysia

Universiti Malaysia Kelantan

Universiti Putra Malaysia

Universiti Malaysia Perlis

PPBMM *Persatuan Pengilang Bumiputera Malaysia*

Use of Blockchain Technology In The Paddy And Rice Industry

The food supply chain in ZPEU can be characterized as a blockchain interaction where each segment of the supply chain must have limited information and control over each process that occurs before and/or after it. Economic change and globalization bring new challenges as supply chains cross national borders and jurisdictions. Supply chain management involves not only the transfer of products from manufacturer to consumer but also (i) payments, credit, and working capital, (ii). Advanced technologies and techniques, (iii). Property rights; and (iv). Information about user requests. Blockchain technology also has the potential to increase the transaction efficiency of all of the above.

The application of blockchain technology also provides complete, transparent, reliable, and timely data that increases trust in food products and enables the sourcing of data by the public and private sectors without taking much time. It also helps food industry players to respond effectively to market demand and governments to implement better agricultural policies.

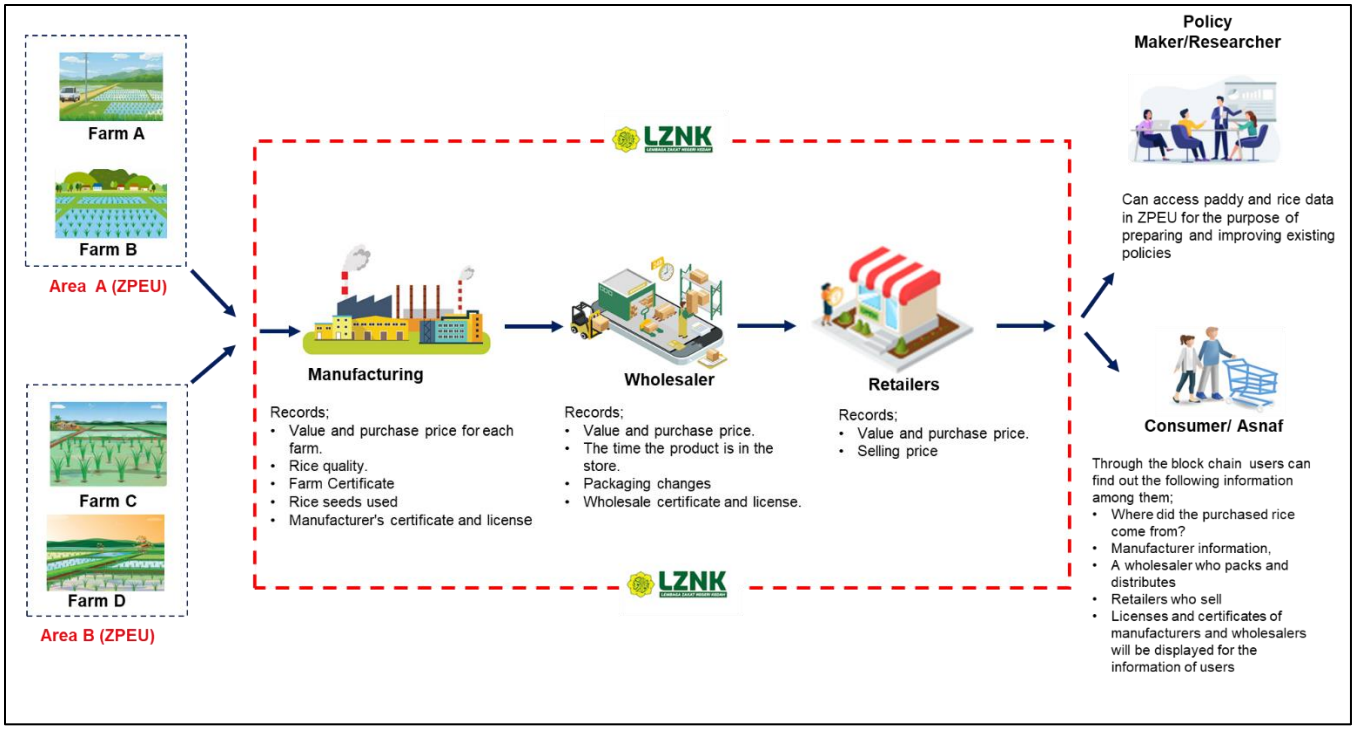


Figure 6: Blockchain technology SBBA

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