PARTNERSHIP-BASED BUSINESS RESILIENCE MODEL FOR VILLAGE-OWNED ENTERPRISES (BUMDES)

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ABSTRACT
This study analyzes the optimal institutional model for supporting BUMDes business development in several sectors. This study uses the Multiple-Criteria Decision-Making (MCDM) approach with Interpretative Structural Modeling (ISM) as an analysis tool. Data was collected through interviews and focus group discussions with experts and stakeholders involved in BUMDes development. The study results indicate that the Village Government and Supervisors are the main driving factors in forming the BUMDes business ecosystem. BUMDes is the leading implementer of village businesses and is supported by various stakeholders. This partnership-based business resilience model emphasizes synchronization between the Village Head and BUMDes and the independence of BUMDes within the appropriate regulatory framework. Managerial implications include increasing BUMDe's professionalism, independence, strategic partnerships, and long-term planning. This study contributes to the BUMDes development literature by offering a holistic approach to analyzing the optimal institutional model in supporting BUMDes business growth.

ABSTRAK
Penelitian ini bertujuan untuk menganalisis model kelembagaan yang optimal dalam mendukung pengembangan bisnis BUMDes di beberapa sektor. Penelitian ini menggunakan pendekatan Multiple-Criteria Decision-Making (MCDM) dengan Interpretative Structural Modeling (ISM) sebagai alat analisis. Pengumpulan data dilakukan melalui wawancara dan focus group discussion dengan para ahli dan stakeholder yang terlibat dalam pengembangan BUMDes. Hasil penelitian menunjukkan bahwa Pemerintah Desa dan Pengawas merupakan faktor pendorong utama dalam membentuk ekosistem bisnis BUMDes. BUMDes berperan sebagai pelaksana utama usaha desa, didukung oleh berbagai pemangku kepentingan. Model ketahanan bisnis berbasis kemitraan ini menekankan sinkronisasi antara Kepala Desa dan BUMDes, serta kemandirian BUMDes dalam kerangka regulasi yang tepat. Implikasi manajerial meliputi peningkatan profesionalisme BUMDes, kemandirian, kemitraan strategis, dan perencanaan jangka panjang. Penelitian ini berkontribusi pada literatur pengembangan BUMDes dengan menawarkan pendekatan holistik untuk menganalisis model kelembagaan yang optimal dalam mendukung pertumbuhan bisnis BUMDes.

INTRODUCTION

Poverty remains a global issue that has yet to be resolved (Banerjee & Duflo, 2007). The complexity of poverty affects people's purchasing power in fulfilling their basic needs, which can lead to the neglect of education and health sectors. In efforts to alleviate poverty, the government plays a crucial role by allocating expenditures in the education and health sectors to enhance the quality of human resources (Winarti & Purwanti, 2014). The regional autonomy stipulated in Law No. 32 of 2004 concerning Regional Government grants authority to local governments to improve human resources through enhancing the quality of health, education, and community income (Baldacci et al., 2008; Fan et al., 2008). This policy is expected to stimulate equitable development and enhance the community's overall welfare in an integrated and optimal manner (World Bank, 2000). However, if regional development priorities do not align with local potentials, resource utilization may become suboptimal, potentially hindering regional economic growth (He, 2020; Spalding, 1990).

Bogor Regency is one of the areas affected by the COVID-19 pandemic since 2020, as evidenced by a significant decline in Gross Regional Domestic Product (GRDP) and economic growth in 2020 (BPS Bogor Regency, 2023). Despite this, the government has undertaken various pandemic recovery efforts, resulting in gradual economic recovery in 2021 and 2022. Bojong Gede Subdistrict, one of the subdistricts in Bogor Regency, plays a significant role in the regional economy. The most extensive contributions to Bojong Gede's GRDP in 2022 came from the wholesale and retail trade, repair of motor vehicles and motorcycles sectors (27,42%), the construction sector (15,79%), and the education services sector (10,17%) (BPS Bojong Gede Subdistrict, 2023).

Village-owned enterprises (BUMDes) are one of the economic entities that contribute to improving the welfare of rural communities (Inapty et al., 2021). BUMDes is important in driving village development through economic activities that increase community income, create jobs, and develop local infrastructure (Anggraeni, 2016). Additionally, BUMDes also advances the agriculture, industry, and tourism sectors at the village level, thereby improving the quality of life for rural residents (Ridlwan, 2014). BUMDes Karya Mandiri, located in Rawa Panjang Village, Bojong Gede Subdistrict, Bogor Regency, has been established since 2019 with the aim of serving the community and utilizing the village's potential. BUMDes Karya Mandiri manages two business units, Internet Services and BUMDESPay, which provide the village with Internet access and electronic transaction services.

However, BUMDes Karya Mandiri also faces various challenges in its operations. Key challenges include limited capital, human resource quality, external collaborations, and the suboptimal utilization of village potential (Inapty et al., 2021; Soejono et al., 2021; Wijaya, 2023). Several indicators, such as workforce, market share, accountability, and profit growth, remain suboptimal (Soejono et al., 2021). Despite these challenges, BUMDes Karya Mandiri strives to empower Rawa Panjang Village by acknowledging the obstacles and taking proactive steps to overcome them. As part of its diversification strategy, BUMDes Karya Mandiri plans to develop a tourism business involving several facilities, such as a jogging track, floating culinary stalls, paddle boats, and a flying fox attraction. Additionally, BUMDes Karya Mandiri plans to diversify its business portfolio by focusing on the environmental sector by establishing a Waste Bank and providing support to local MSMEs (Micro, Small, and Medium Enterprises) with digital marketing training and assistance. Business continuity is another crucial issue for BUMDes, particularly BUMDes Karya Mandiri. This involves institutional capacity and coordination among stakeholders to become a resilient organization. To ensure the sustainability of the organization and its business operations, BUMDes must be managed professionally and independently.

This study aims to support the sustainability of BUMDes Karya Mandiri's management by analyzing the optimal institutional model to support its business development, particularly in the tourism, environmental, and MSME sectors. Building on the work of Suhendi and Hamzah (2024), the research will explore a partnership-based business resilience institutional model, examining the roles of key

stakeholders such as the Village Government, Supervisors, Business Partners, and the Community. The study will also investigate potential focus areas for development, such as the Wifi-Viber Link and Bank Sampah business units, and examine strategies for community involvement, strategic partnerships, and effective business management. By doing so, it is hoped that BUMDes Karya Mandiri can be more effective in empowering the community and advancing the economy of Rawa Panjang Village.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Public Policy

Public policy is defined as actions taken or not taken by the government in the public's interest (Dye, 1978). Policy implementation is a critical phase within the overall policy-making structure, determining the policy's success in producing the expected output and outcomes (Mustanir & Darmiah, 2016). Edward III (1980) identifies four main variables that influence successful implementation: communication, resources, the disposition of implementers, and the bureaucratic structure. Failures in policy implementation can be categorized into Non-Implementation and Unsuccessful Implementation (Hogwood & Gunn, 1986; Tiza et al., 2014). Factors contributing to implementation failures include poor execution, flawed policies, and unfortunate circumstances (Tinolah, 2016).

Village Development Goals

Villages are legal entities with the authority to manage and administer governmental matters and local community interests based on community initiatives, traditional rights, and/or customary rights recognized within the framework of Indonesia's governance system (Buku Bantu Pengelolaan Pembangunan Desa, 2016). Law No. 6 of 2014 on Villages regulates the principles of village governance, including recognition, subsidiarity, diversity, solidarity, cooperation, mutual assistance, family, deliberation, democracy, independence, participation, equality, empowerment, and sustainability.

The goals of village development, as outlined in Law No. 6 of 2014, include improving the welfare of village communities, enhancing the quality of human life, and reducing poverty through the provision of basic needs, development of village infrastructure, promotion of local economic potential, and sustainable utilization of natural and environmental resources. This law supports two development approaches: 'Village Building' and 'Building Villages' (Eko et al., 2014). The complexity of rural development is characterized by various indicators, including economic growth, economic transformation, employment, poverty, social capital, infrastructure, household and community assets, health, education, population inequality, social cohesion, security, international relations, and governance (Tamboto & Manongko, 2019).

Rural and Regional Development

Rural development focuses on rural areas, considering rural communities' social and cultural characteristics. Its goal is to reduce the disparities between rural and urban development and serve as a solution to social changes in rural society (Buku Bantu Pengelolaan Pembangunan Desa, 2016). Nasution et al. (2017) argue that regional development aims to increase the value and utility of the region for its inhabitants, including improving welfare, providing facilities and infrastructure, goods or services, and fostering business activities within the community. Indicators of successful regional development include economic, socio-cultural, and physical aspects.

Village-Owned Enterprises (BUMDes)

Village-owned enterprises (BUMDes) are economic entities that enhance rural communities' welfare (Anggraeni, 2016; Ridlwan, 2014). BUMDes are pivotal in driving village development through economic activities that increase community income, create jobs, and improve local infrastructure. However,

BUMDes also faces various challenges in their operations, such as limited capital, the quality of human resources, collaboration with external parties, and the suboptimal utilization of village potential (Inapty et al., 2021; Soejono et al., 2021; Wijaya, 2023). Key indicators, such as labor force, market share, accountability, and profit growth, remain suboptimal (Soejono et al., 2021).

RESEARCH METHOD
This research was conducted at BUMDES Karya Mandiri in Rawa Panjang Village, Bojong Gede Subdistrict, Bogor Regency. The data collection period spanned from February 2024 to July 2024. The research design employs a Multiple-Criteria Decision-Making (MCDM) approach, utilizing Interpretative Structural Modeling (ISM) as the analytical tool. The data used in this research consists of primary data gathered through in-depth interviews and focus group discussions (FGDs) with experts and key persons involved in village development. The interviews were conducted using purposive sampling with both closed and open-ended questionnaires. Seven experts/practitioners were interviewed: the Director of BUMDES (1 person), a Village Government Representative (Head of Finance), Community Leaders, Village Facilitators, the BUMDES Secretary, Business Partners, and Academics. The finalization of the results involved a forum group discussion (FGD) with experts, practitioners, and relevant stakeholders as a form of face validity. The FGD is a stage of validity and verification by experts (face validity) of the ISM model and the business institution of synthesis of research results so that the resulting model is confirmed and valid.

Interpretative Structural Modeling (ISM) is an analytical tool for strategic policy planning. ISM analyzes system elements and breaks them down graphically, showing direct relationships between elements and their hierarchical levels. According to Saxena et al. (1992), ISM in program analysis involves nine key elements that must be considered: (1) stakeholders/institutions impacted by the policy implementation; (2) program needs arising from policy implementation; (3) main constraints to policy implementation; (4) desired changes after policy enforcement; (5) ultimate goals of the policy implementation; (6) benchmarks used to assess the effectiveness or success of the policy; (6) activities required for policy implementation planning; (7) activity metrics to evaluate the outcomes of each activity; (8) stakeholders/institutions involved in the policy implementation. These elements will be broken down into sub-elements, and their contextual relationships will be established. The relationships will then be analyzed using pairwise comparisons. Based on these contextual relationships, a Structural Self-Interaction Matrix (SSIM) is developed using the following symbols: V if $e_{ij} = 1$ and $e_{ji} = 0$; A if $e_{ij} = 0$ and $e_{ji} = 1$; X if $e_{ij} = 1$ and $e_{ji} = 1$; O if $e_{ij} = 0$ and $e_{ji} = 0$

The ISM analysis is based on expert judgment, with evaluations grounded in ISM Cartesian diagrams, Driver Power (DP) values, and Dependence (D) values to classify the elements. The element classification is broadly categorized into four sectors (Eriyatno, 2003): First is sector I: weak driver–weak dependent variables (autonomous). Elements in this sector are generally unrelated to the system and may have weak links, even though they could have strong relationships. Second is sector II: weak driver–strong dependent variables (dependent). Elements in this sector typically represent sub-elements that are not autonomous. Third is sector III: strong driver–strong dependent variables (linkage). Elements in this sector require careful analysis as the relationships between sub-elements are unstable. Any action on one sub-element impacts others, and feedback effects can amplify the impact. Fourth is sector IV: strong driver–weak dependent variables (Independent). Elements in this sector are considered the remaining part of the system and are referred to as independent variables.

RESULT AND DISCUSSIONS
The Interpretive Structural Modeling (ISM) analysis was used to identify and analyze the interconnections among key elements in business development through diversification strategies at BUMDes Karya Mandiri in Rawa Panjang Village.

Table 1. Structural Self-Interaction Matrix (SSIM) for Institutions Affected

Element: Institutions/Groups Affected	Sub-Element (i-j)	7	6	5	4	3	2	1
Community	1	V	V	V	V	V	V	
Community leaders	2	V	A	A	A	A		
Partners	3	V	V	X	V			
Supervisors	4	V	X	A				
BUMDes	5	V	V					
Village government	6	V						

ISM is a modeling methodology that helps understand the complex relationships between various elements within a system. This study analyzed six main elements using the ISM methodology: institutions or groups affected, program needs, main challenges faced, potential changes, required activities, and institutions or groups involved. The ISM analysis for each element provides deep insights into the relationships and hierarchy of the sub-elements. These findings can help BUMDes Karya Mandiri plan and implement business development strategies through diversification, considering the key factors and their interdependencies.

Institutions or Groups Affected

Identifying the institutions or groups affected is a critical step in understanding the impact and implications of these changes on various stakeholders in the village ecosystem during the business development process through diversification at BUMDes Karya Mandiri. A comprehensive analysis of this element will help BUMDes Karya Mandiri plan and implement business diversification strategies effectively, ensuring proper communication and anticipating potential challenges and opportunities. The seven sub-elements of the institutions or groups affected by business diversification at BUMDes Karya Mandiri are as follows: 1) Community, 2) Community leaders, 3) Partners, 4) Supervisors, 5) BUMDes, 6) Village government, and 7) Regional government. The data processing steps start with determining the SSIM Table, as shown in Table 1. The transformation of these relationships into binary format (1s and 0s) for mathematical analysis, as seen in Table 2, highlighted more explicit patterns. The community maintained complete influence with all 1s in row 1, while the Regional government demonstrated minimal direct influence with primarily 0s in row 7 except for the final column.

The interpretation of these relationships is depicted in Table 3, where the hierarchy levels range from 1 to 5, with Regional government positioned at level 1 and Community at level 5. The institutions are also categorized into sectors 1 through 4, grouping them by similar characteristics. The analysis reveals driving power (DP) measurements, where Community shows the highest value at seven and Regional government the lowest at 1. Conversely, regarding dependence (D), the Regional government exhibits the highest value at seven while the Community shows the lowest at 1.

**Table 2. Reachability Matrix (RM) Model for Institutions Affected**

Element: Institutions/Groups Affected	Sub-Element (i-j)	1	2	3	4	5	6	7
Community	1	1	1	1	1	1	1	1
Community leaders	2	0	1	0	0	0	0	1
Partners	3	0	1	1	1	1	1	1
Supervisors	4	0	1	0	1	0	1	1
BUMDes	5	0	1	1	1	1	1	1
Village government	6	0	1	0	1	0	1	1
Regional government	7	0	0	0	0	0	0	1
Compiled from Expert Responses (All Experts)								

Table 3. Sub-element Interpretation of Affected Institution Sectors

Sub-Element	(i)	Key To	Hierarchy Level	Sector	DP	D
Community	1	1	5	4	7	1
Community leaders	2	4	2	2	2	6
Partners	3	2	4	4	6	3
Supervisors	4	3	3	3	4	5
BUMDes	5	2	4	4	6	3
Village government	6	3	3	3	4	5
Regional government	7	5	1	2	1	7

The MICMAC analysis distributed the factors across various sectors. Based on Driver Power (DP) and Dependent Variables (D), the actors influencing the choice of the best business model for BUMDes Karya Mandiri in Desa Rawa Panjang were grouped into four sectors: I (autonomous), II (dependent), III (linkage), and IV (driver power). Driver power is derived from the Reachability Matrix, where elements capable of influencing other elements hold high driver power.

According to Figure 1, which shows the matrix analysis results, the sub-elements of institutions or groups affected are distributed across four sectors. Sector II (dependent/impact receivers) includes the sub-elements Community leaders (2) and Regional government (7). Sector III (linkage) consists of the sub-elements Supervisors (4) and Village government (6). Sector IV (independent) includes the sub-elements Community (1), Partners (3), and BUMDes (5). The Community (1) sub-element serves as the primary driver power, while Partners (3) and BUMDes (5) act as secondary driver powers.
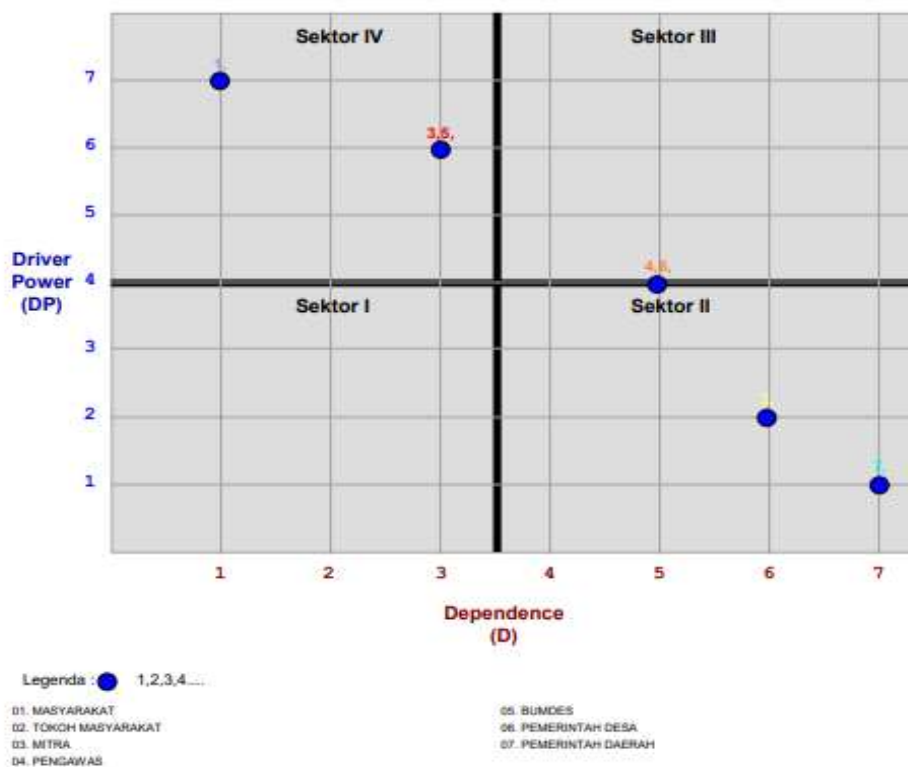
Figure 1: ISM Element Distribution Matrix for Affected Institution Sectors
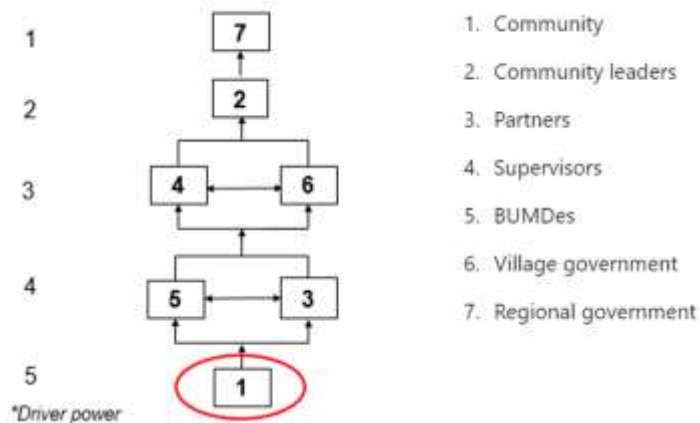
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Figure 2: Hierarchical Structure Model for Affected Institution Sectors

The hierarchical structure of elements within the affected institutional or group sectors is illustrated in Figure 2. These sub-elements are distributed across four industries, demonstrating that the hierarchical elements in the affected institutional or group sectors comprise five distinct levels. The Local Government sub-element (7) occupies the first level, while the Community sub-element (1) is at the fifth level. The latter emerges as the key factor among the affected institutional or group elements in determining the optimal business selection pattern for BUMDES Karya Mandiri in Rawa Panjang village. Concurrently, the sub-elements of BUMDES and Business Partners (partner companies) constitute the second key factor.

This configuration indicates that the primary consideration in formulating strategic policies for BUMDES business development is the identification of stakeholders who will be impacted or derive principal benefits from these policies. This consideration focuses on the Institutional/stakeholder sector or Community groups that will be affected. The ISM analysis results demonstrate that the "Community" is the key factor and primary consideration in BUMDES development. The benefits, advantages, and impacts on the Community are identified as the principal factors contributing to BUMDES success. Subsequently, BUMDES and its Business Partners are positioned to receive substantial benefits, impacts, and advantages, thus becoming the next key factor and consideration. It is imperative that the development has a positive impact and generates benefits for all other stakeholders in accordance with their position in the hierarchical structure.

Program Needs
Identifying program needs is a crucial step in understanding the factors necessary to support the successful implementation of business diversification at BUMDes Karya Mandiri. A comprehensive analysis of the sub-elements of program needs will assist BUMDes Karya Mandiri in effectively planning and implementing business diversification, ensuring adequate resources, and anticipating potential challenges and opportunities.

Based on the analysis, the sub-elements of program needs are distributed across three sectors. Sector II (dependent/impact receivers) includes the sub-elements Community Support (4) and Community Socialization (7). Sector III (linkage) consists of the sub-elements Guidance from the Village Community Empowerment Agency (DPMD) (8), Guidance from the Subdistrict (9), and Routine Evaluation (3). Sector IV (independent) includes the sub-elements Commitment from Both Parties (Partners and BUMDes) (1), Commitment from Village Government (2), Village Government Regulations (5), and Regional Government Regulations (6), with Village Government Regulations (5) and Regional Government Regulations (6) serving as the main driver powers (the strongest driving factors).
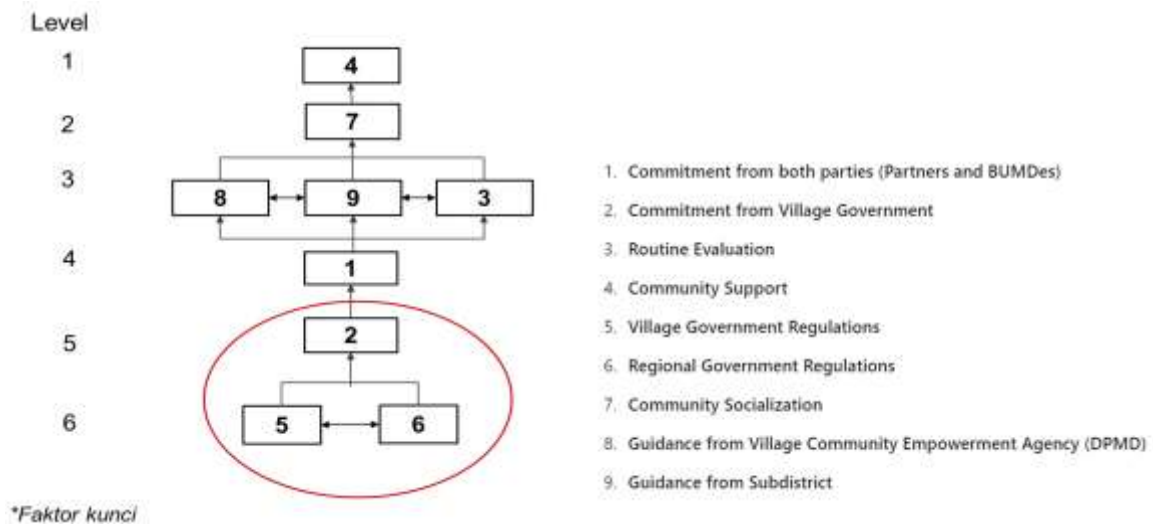
Level
1. Commitment from both parties (Partners and BUMDes)
2. Commitment from Village Government
3. Routine Evaluation
4. Community Support
5. Village Government Regulations
6. Regional Government Regulations
7. Community Socialization
8. Guidance from Village Community Empowerment Agency (DPMD)
9. Guidance from Subdistrict

*Faktor kunci

Figure 3: Hierarchical Structure Model for Program Needs Sector Elements

The hierarchical structure of elements within the program requirements sector is depicted in Figure 3. The sub-elements of program requirements are distributed across six levels, indicating that the hierarchical levels of program requirement elements consist of 6 distinct tiers. The Community Support sub-element (4) is positioned at the first level, while at the sixth level, the sub-elements of Village Government Regulation (5) and Local Government Regulation (6) emerge as the key factors in the program requirements element for determining the optimal business selection pattern for BUMDES Karya Mandiri in Rawa Panjang village.

These key factors are followed in importance by the commitment of the Village Government (in this case, presumably led by the Village Head), and subsequently by the mutual commitment of both parties (BUMDES and Business Partners). This hierarchical arrangement suggests that, regardless of the quality of regulations established by either the Village Government or Local Government, BUMDES cannot function effectively or develop sustainably without these foundational elements. The structure implies a bottom-up approach to BUMDES development, where community support forms the base, followed by local governmental commitment and regulatory frameworks. This hierarchy underscores the critical role of community engagement and local governance in implementing and sustaining BUMDES initiatives.

Main Challenges Faced

Identifying the main challenges faced is a critical step to understanding the factors that could hinder the successful implementation of business diversification at BUMDes Karya Mandiri. A comprehensive analysis of the sub-elements of these challenges will help BUMDes Karya Mandiri plan strategies to overcome obstacles, allocate resources effectively, and anticipate potential risks. Based on the matrix analysis results, the sub-elements of the main challenges are distributed across three sectors. Sector II (dependent/impact receivers) includes the sub-elements No SOP yet (5) and No routine evaluations (6). Sector III (linkage) consists of the sub-elements Capital issues (2), Inadequate human resources (3), Networking and team collaboration (4), and Opposition/frequent rejection from the community (8). Sector IV (independent) includes the sub-element No strategic business mapping yet (7) as the second driver power and Misalignment between the Village Head and BUMDes (1) as the main driver power (the strongest driving force) influencing the other sub-elements. The hierarchical structure of elements within the main constraints sector is illustrated in Figure 4. The sub-elements of the main constraints sector are distributed across four sectors, indicating that the hierarchy of elements in the main constraints sector comprises five levels.
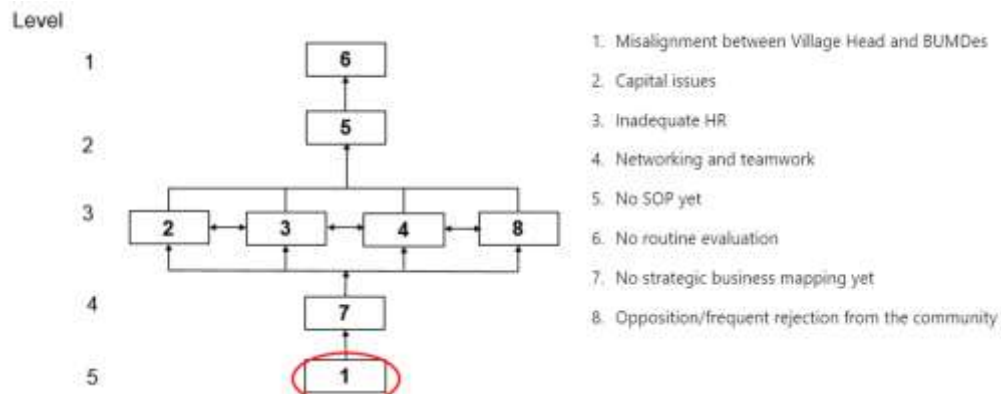
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Figure 4. Hierarchical Structure Model for Main Challenges Sector Elements

The sub-element absence of routine evaluation (6) is positioned at the first level, while at the fifth level, the sub-element lack of synchronization between the Village Head and BUMDES (1) emerges as the key factor among the main constraints elements in selecting the best business for BUMDES Karya Mandiri in Rawa Panjang village. This lack of synchronization can potentially impede the development of BUMDES business ventures and may threaten the continuity or resilience of BUMDES operations. Another crucial constraint of similar importance is the absence of strategic business mapping for BUMDES. This deficiency can hinder business development and direction, potentially compromising the continuity of BUMDES business operations.

The hierarchical structure of these constraints underscores the critical importance of alignment between local leadership and BUMDES management, as well as the need for strategic planning and regular evaluation. These factors appear to be fundamental in ensuring the sustainable development and resilience of BUMDES initiatives. Identifying these key constraints provides valuable insights for policymakers and BUMDES managers in formulating strategies to overcome obstacles and enhance the effectiveness of village-owned enterprises.

Potential Changes
Identifying potential changes is an important step in understanding strategic actions that can be taken to promote the successful implementation of business diversification at BUMDes Karya Mandiri. A comprehensive analysis of the sub-elements of potential changes will help BUMDes Karya Mandiri plan the necessary transformations, allocate resources effectively, and seize potential opportunities.
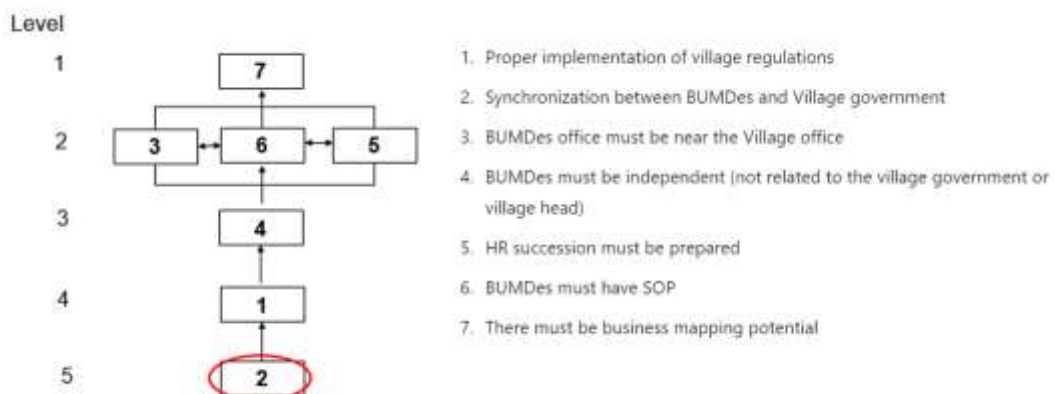

Figure 5. Hierarchical Structure Model for Potential Changes Sector Elements

Based on the matrix analysis results, the sub-elements of potential changes are distributed across three sectors. Sector II (dependent/impact receivers) includes the sub-element There must be business mapping (7). Sector III (linkage) consists of the sub-elements BUMDes office must be near the Village office (3), HR succession must be prepared (5), and BUMDes must have an SOP (6). Sector IV (independent) includes the sub-elements Proper implementation of village regulations (1), Synchronization between BUMDes and the village government (2), and BUMDes must be independent (not related to the village government or village head) (4). The sub-element Proper implementation of village regulations (1) acts as the second driver power, and Synchronization between BUMDes and the village government (2) serves as the main driver power (the most potent driving force).

The hierarchical structure of elements for possible changes is depicted in Figure 5. The sub-elements of possible changes are distributed across four sectors, indicating that the hierarchy of elements in the possible changes sector consists of 5 levels. The sub-element necessity for potential business mapping (7) is positioned at the first level. In contrast, at the fifth level, the sub-element synchronization between BUMDES and Village Government (2) emerges as the key factor among the institutional elements or possible changes in determining the optimal business selection pattern for BUMDES Karya Mandiri in Rawa Panjang village. The subsequent factor is the need to properly implement village regulations (1).

This hierarchical structure highlights the importance of strategic alignment between BUMDES and local governance structures. The positioning of business mapping at the first level underscores the fundamental need for a comprehensive understanding of potential business opportunities. Simultaneously, the emergence of BUMDES-Village Government synchronization as a key factor at the highest level emphasizes the crucial role of coordinated efforts between these entities in facilitating effective change and development.

Identifying the proper implementation of village regulations as a subsequent factor further reinforces the significance of a well-structured regulatory environment in supporting BUMDES operations. This hierarchical arrangement suggests a bottom-up approach to change, where strategic business planning forms the foundation, supported by strong institutional alignment and effective regulatory implementation. These findings provide valuable insights for policymakers and BUMDES managers, highlighting key areas for focus in driving positive change and enhancing the effectiveness of village-owned enterprises. The emphasis on synchronization and strategic mapping indicates the need for collaborative, informed decision-making processes in developing and managing BUMDES initiatives.

Required Activities

Identifying the required activities is a crucial step in understanding the concrete actions needed to support the successful implementation of business diversification at BUMDes Karya Mandiri. A comprehensive analysis of the sub-elements of required activities will assist BUMDes Karya Mandiri in structuring an action plan, allocating resources efficiently, and ensuring the effective execution of key activities. Based on the matrix analysis results, the sub-elements of required activities are distributed across three sectors. Sector II (dependent/impact receivers) includes the sub-elements of Community socialization (1) and Business and product innovation (3). Sector III (linkage) consists of the sub-elements HR preparation (2), Seeking and fostering business partnerships (networking) (4), Collaboration with academia/research (5), Guidance from related agencies (6), and Program assistance (7). Sector IV (independent) includes the sub-element Institutional strengthening (8) as the main driver power (the most potent driving force).

Figure 5 illustrates the hierarchical structure of elements for possible changes. The sub-elements of possible changes are distributed across four sectors, indicating that the hierarchical levels of elements in the possible changes sector consist of four levels. The sub-element community socialization (1) is positioned at the first level.
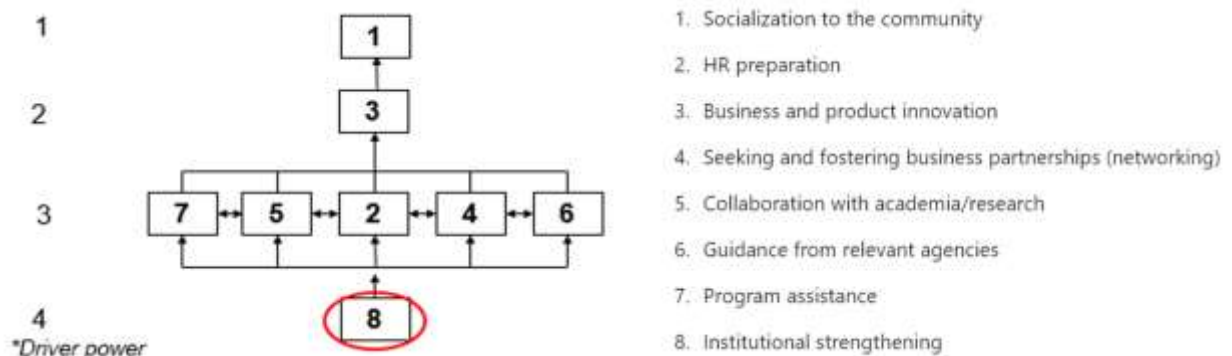
Figure 6. Hierarchical Structure Model for Required Activities Sector Elements

In contrast, at the fourth level, the sub-element institutional strengthening (8) emerges as the key factor among the institutional strengthening elements or possible changes in determining the optimal business selection pattern for BUMDES Karya Mandiri in Rawa Panjang village. This hierarchical structure reveals significant insights into the potential change mechanisms for BUMDES development. The positioning of community socialization at the first level underscores the fundamental importance of engaging and informing the local populace as a foundational step in the change process. This suggests that community awareness and support are crucial initial factors in implementing effective changes.

Conversely, the emergence of institutional strengthening as the key factor at the highest level emphasizes the overarching importance of robust organizational structures and processes. This implies that while community engagement forms the base, the ultimate success and sustainability of changes heavily depend on the institutional framework's strength and efficiency. The four-level structure indicates a relatively streamlined hierarchy of change elements, suggesting a focused approach to transformation. This structure provides a clear pathway for BUMDES managers and policymakers, highlighting the progression from community involvement to institutional enhancement. These findings offer valuable guidance for strategic planning in BUMDES development. They emphasize the need for a balanced approach that begins with community-level engagement and culminates in comprehensive institutional strengthening. This hierarchical model can serve as a roadmap for implementing effective changes, ensuring that both grassroots support and organizational robustness are adequately addressed in optimizing BUMDES operations.
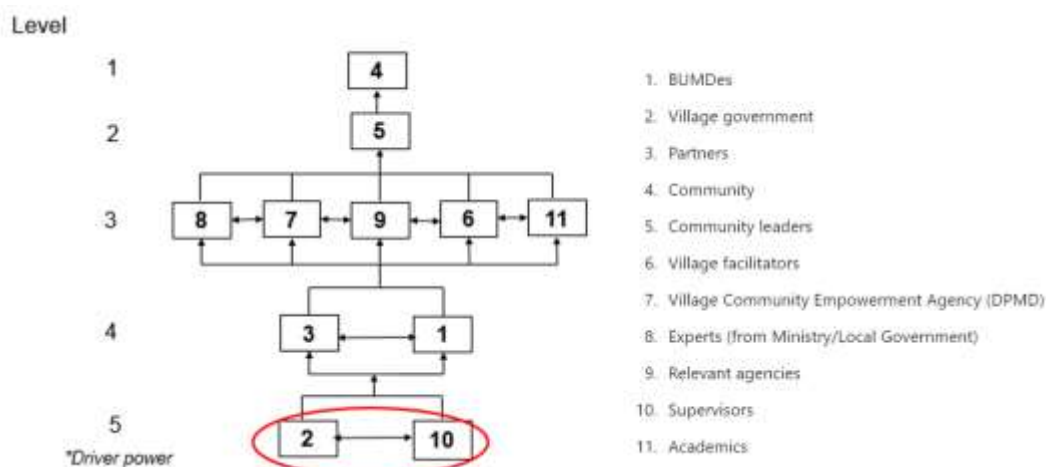

Figure 7. Hierarchical Structure Model for the Sector of Institutions Involved

Institutions or Groups Involved

Identifying the institutions or groups involved is a crucial step in understanding the stakeholders who play a role in supporting the successful implementation of business diversification at BUMDes Karya Mandiri. A comprehensive analysis of the sub-elements of the institutions or groups involved will help BUMDes Karya Mandiri build effective collaborations, optimize resource utilization, and ensure synergy among stakeholders.

Based on the matrix analysis results, the sub-elements of the institutions or groups involved are distributed across three sectors. Sector II (dependent/impact receivers) includes the sub-elements Community (4) and Community leaders (5). Sector III (linkage) consists of the sub-elements Village Facilitators (6), Village Community Empowerment Agency (DPMD) (7), Experts (from Ministry/Local Government) (8), Relevant Agencies (9), and Academics (11). Sector IV (independent) includes the sub-elements BUMDes (1), Village government (2), Partners (3), and Supervisors (10), with Village government (2) and Supervisors (10) acting as the leading driver powers (the most potent driving forces). The hierarchical structure of the sector elements of the institutions or groups involved (Figure 7) shows that the hierarchy consists of five levels. The sub-element Community (4) is at the first level, while the sub-elements Village Government (2) and Supervisors (10) are at the fifth level, acting as key factors in the selection of the best business model for BUMDes Karya Mandiri in Desa Rawa Panjang. The subsequent key factor highly depends on BUMDES itself and its Business Partners (which may include private companies or other primary partners).

BUMDes Partnership-Based Business Resilience Model

Table 4 presents the matrix synthesized from the ISM method, which identifies key sub-elements (independent), linkage sub-elements, and dependent and autonomous sub-elements for each analyzed variable.

Table 4. Matrix of ISM method synthesis results

Variable	Key/Independent Sub-elements	Linkage Sub-elements	Dependent and Autonomous Sub-elements
Institutions or Groups Affected Program Needs	• Community • Partners • BUMDes • Village government regulations • Regional government regulations • Commitment from both parties (Partners and BUMDes) • Commitment from the Village government	• Supervisors • Village government • DPMD guidance • Subdistrict guidance • Routine evaluation	• Community leaders • Regional Government • Community support • Community socialization
Main Challenges Faced	• Misalignment between Village Head and BUMDes • No strategic business mapping yet	• Capital issues • Inadequate HR • Networking and teamwork	• No SOP • No routine evaluation

Variable	Key/Independent Sub-elements	Linkage Sub-elements	Dependent and Autonomous Sub-elements
Potential Changes	• Synchronization between BUMDes and Village government • Proper implementation of village regulations • BUMDes must be independent	• Opposition/rejection from the community • The BUMDes office should be near the Village office • HR succession should be prepared • BUMDes must have SOP	• Business mapping must be done
Required Activities	• Institutional strengthening	• HR preparation • Seeking and fostering business partnerships (networking) • Collaboration with academia/research • Guidance from relevant agencies • Program assistance	• Community socialization • Business and product innovation
Institutions Involved	• Village government • Supervisors • BUMDes • Partners	• Village Facilitators • DPMD • Experts (from Ministry/Local Government) • Relevant agencies • Academics	• Community • Community leaders

The description and implications of the key sub-elements for each element in developing the BUMDes business ecosystem are explained as follows. Institutions or Groups Affected: The village community, business partners, and BUMDes itself are the primary actors directly impacted by optimizing the BUMDes business ecosystem. Program needs are village and regional government regulations that form a strong legal foundation for BUMDes operations. The commitment of BUMDes, partners, and the Village government is key to the program's success. The main challenge is misalignment between the Village Head and BUMDes, which can hinder decision-making and program implementation. The absence of strategic business mapping shows that BUMDes lacks clear direction in its business development. There are potential changes, such as synchronization between BUMDes and the village government, that need to align their vision and mission. Proper implementation of village regulations provides a strong foundation for BUMDes operations. Independence is essential to ensure that business decisions are made professionally. Required activities are institutional strengthening, which involves improving HR capacity, enhancing management systems, and developing an organizational culture that supports BUMDes growth. Institutions or groups involved are the village government, supervisors, and bumdes, are key stakeholders in supporting the development of the BUMDes business ecosystem. The Village government

designs regulations, the Supervisors ensure BUMDes operates according to the rules, and BUMDes is the leading actor running the village business.
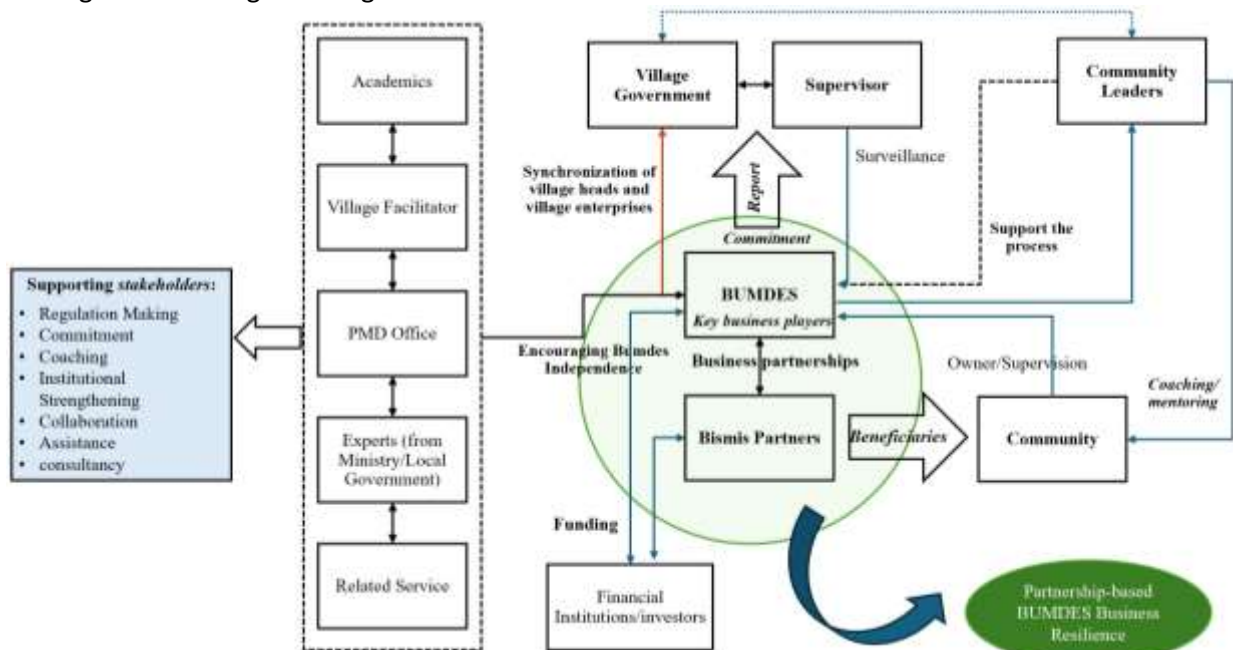

Figure 8: Partnership-Based Business Resilience Model for BUMDes Karya Mandiri in Rawa Panjang Village

Based on the ISM analysis results and the model presented (Figure 8), the key driving forces shaping the BUMDes Partnership-Based Business Resilience Ecosystem are the Village government and Supervisors. The Village government acts as the regulator and policy maker, while the Supervisors ensure that BUMDes operates according to the rules and achieves its goals. BUMDes emerges as a second driver power in this model, highlighting its significant role in driving the village business ecosystem. BUMDes manages business operations and collaborates with various parties to achieve the village's economic development goals.

Supporting stakeholders such as the Village Community Empowerment Agency (DPMD), experts, and other related agencies provide technical and regulatory support. The partnership between BUMDes and its business partners forms one of the core foundations for building business resilience. The community is positioned as the primary beneficiary of BUMDes activities, while community leaders support the process and bridge communication between BUMDes and the community. Academics and village facilitators offer knowledge and technical assistance to support BUMDes development. Synchronization between the Village Head and BUMDes is crucial to align visions and missions. At the same time, the model also emphasizes the importance of promoting BUMDes' independence within proper regulatory and oversight frameworks.

Overall, this institutional model demonstrates the interconnections and dependencies among various institutions involved in the Partnership-Based Business Resilience Ecosystem of BUMDes. With the Village government orchestrating as the primary regulator, the synergy and collaboration between these institutions are expected to foster a resilient and sustainable BUMDes that improves the welfare of the village community. This model emphasizes the importance of partnerships, stakeholder support, and active community participation in building BUMDes' business resilience. By doing so, this institutional model can contribute to enhancing the overall value proposition of the BUMDes business ecosystem, supporting more substantial and sustainable village economic development.

Based on the points mentioned, BUMDes Karya Mandiri can apply the following managerial implications. 1. BUMDes must manage its business more professionally by improving HR competencies, implementing effective and efficient management systems, and enhancing transparency and accountability in financial and performance reporting. BUMDes must become more independent, free from external interference. This can be achieved through legal empowerment by drafting MoUs or regulations to affirm its independence. Financial independence can be supported by optimizing village assets and potential, diversifying businesses, improving operational efficiency, and developing access to alternative funding sources. Strategic partnerships with relevant stakeholders can support BUMDes' business development. Involve the community in BUMDes programs, improve communication and coordination with the Village government, and collaborate with academics and research institutions. BUMDes should create a long-term strategic plan aligned with its vision and mission, identifying growth and business expansion opportunities, allocating resources effectively, and conducting regular monitoring and evaluation. This study uses the Interpretive Structural Modeling (ISM) approach to analyze the optimal institutional model for business development at BUMDes Karya Mandiri in Rawa Panjang Village. Unlike previous studies, this research adopts a holistic perspective by considering the interactions between stakeholders and factors that influence BUMDes' success. Through ISM, this study identifies the key elements in the BUMDes business ecosystem, highlighting the central role of the Village government and Supervisors and the importance of stakeholder collaboration. The results provide a foundation for strategic decision-making and effective policy formulation, with concrete managerial implications to improve BUMDes' performance. This research contributes significantly to the literature on BUMDes development and offers a new approach to analyzing the optimal institutional model for supporting BUMDes' business growth.

CONCLUSION

Based on the ISM analysis, the partnership-based business resilience institutional model for BUMDES Karya Mandiri in Rawa Panjang village reveals that the key driving factors in shaping BUMDES' business ecosystem are the Village Government and Supervisors, acting as regulators, policy makers, and overseers. BUMDES itself and its Business Partners (including partner companies) are crucial executors and determinants of business success and continuity. The Community emerges as the primary key factor influenced by and benefiting from BUMDES activities, while other stakeholders, including BUMDES management, play supportive roles in the ecosystem. Major challenges include lack of synchronization between the Village Head and BUMDES, and absence of strategic business mapping. The model emphasizes the need for clear regulations from Village and Local Governments, strong commitment from BUMDES, business partners, and the Village Government, as well as institutional strengthening activities to enhance BUMDES' resilience, independence, and optimal benefit to the community through synergistic cooperation with various relevant stakeholders. To optimize the implementation of this institutional model, it is recommended that the Village government strengthens regulations and commitment in supporting BUMDes, enhances HR capacity through training and mentoring, expands partnership networks, and involves the community in BUMDes' planning and oversight. Additionally, it is crucial to map out strategic and innovative business potential and develop an effective monitoring and evaluation system to ensure the long-term sustainability and resilience of BUMDes businesses. The Partnership-Based Business Resilience Model for the management of BUMDes is expected to make BUMDes managed more professionally and sustainably. In addition, this model can be used as a reference in the business management of BUMDes institutions in Indonesia, particularly in similar village-based countries.

REFERENCES

Anggraeni, M. R. R. S. (2016). Peranan Badan Usaha Milik Desa (BUMDes) pada kesejahteraan masyarakat pedesaan studi pada BUMDes di Gunung Kidul, Yogyakarta [The role of Village-Owned Enterprises (BUMDes) in rural community welfare: A study of BUMDes in Gunung Kidul, Yogyakarta]. *Modus*, *28*(2), 155-167.

Baldacci, E., Clements, B., Gupta, S., & Cui, Q. (2008). Social spending, human capital, and growth in developing countries. *World Development*, *36*(8), 1317-1341. https://doi.org/10.1016/j.worlddev.2007.08.003

Banerjee, A. V., & Duflo, E. (2007). The economic lives of the poor. *Journal of Economic Perspectives*, *21*(1), 141-168. https://doi.org/10.1257/jep.21.1.141

BPS Kabupaten Bogor. (2023). *Produk Domestik Regional Bruto Kabupaten Bogor Menurut Lapangan Usaha 2018-2022* [Gross Regional Domestic Product of Bogor Regency by Industry 2018-2022]. BPS Kabupaten Bogor.

BPS Kecamatan Bojong Gede. (2023). *Kecamatan Bojong Gede Dalam Angka 2023* [Bojong Gede Subdistrict in Figures 2023]. BPS Kabupaten Bogor.

Dye, T. R. (1978). *Understanding public policy* (3rd ed.). Prentice Hall.

Edward III, G. C. (1980). *Implementing public policy*. Congressional Quarterly Press.

Eko, S., Khasanah, T. I., Widuri, D., Handayani, S., Handayani, N., & Qomariyah, P. (2014, February). Desa membangun indonesia [Villages developing Indonesia]. In *Forum Pengembangan Pembaharuan Desa (FPPD)*.

Eriyatno. (2003). *Ilmu Sistem: Meningkatkan Mutu dan Efektivitas Manajemen* [Systems Science: Improving Management Quality and Effectiveness]. IPB Press.

Fan, S., Yu, B., & Saurkar, A. (2008). Public spending in developing countries: Trends, determination, and impact. In S. Fan (Ed.), *Public expenditures, growth, and poverty* (pp. 20-55). Johns Hopkins University Press.

He, L. (2020). Measuring the effects of globalisation on economic growth, energy consumption, and CO_2 emissions: Evidence from G20 countries. *International Journal of Sustainable Development & World Ecology*, *27*(6), 523-536. https://doi.org/10.1080/13504509.2020.1784582

Hogwood, B. W., & Gunn, L. A. (1986). *Policy analysis for the real world*. Oxford University Press.

Inapty, B. A., Sururi, A., Hermana, D., & Abidin, A. Z. (2021). Management strategy of village-owned enterprises (BUMDes) in the empowerment of village community-based tourism. *Jurnal Manajemen dan Kewirausahaan*, *23*(2), 108-123. https://doi.org/10.9744/jmk.23.2.108-123

Mustanir, A. (2016). Implementasi Kebijakan Dana Desa Dan Partisipasi Masyarakat Dalam Pembangunan Di Desa Teteaji Kecamatan Tellu Limpoe Kabupaten Sidenreng Rappang [Implementation of Village Fund Policy and Community Participation in Development in Teteaji Village, Tellu Limpoe Subdistrict, Sidenreng Rappang Regency]. *Jurnal Politik Profetik*, *4*(2).

Nasution, L. N. H., Dharmawan, A. H., & Sumarti, T. (2017). Pertambangan Emas di Wilayah Maluku Barat Daya: Kutukan atau Berkah? (Studi Kasus Konflik Akses Sumber Agraria) [Gold Mining in Southwest Maluku: A Curse or a Blessing? (Case Study of Agrarian Resource Access Conflict)]. *Sodality: Jurnal Sosiologi Pedesaan*, *5*(2), 163–170. https://doi.org/10.22500/sodality.v5i2.17978

Ridlwan, Z. (2014). Urgensi Badan Usaha Milik Desa (BUMDes) dalam pembangun perekonomian desa [The urgency of Village-Owned Enterprises (BUMDes) in village economic development]. *Fiat Justisia: Jurnal Ilmu Hukum*, *8*(3), 424-440. https://doi.org/10.25041/fiatjustisia.v8no3.314

Saxena, J. P. (1992). Hierarchy and classification of program plan elements using interpretive structural modeling. *Systems Practice*, *5*(6), 651-670. https://doi.org/10.1007/BF01083616

Soejono, F., Supriyono, B., & Mardiyono, M. (2021). Performance of village-owned enterprises: Influencing factors and impacts on rural development in Indonesia. *International Research Journal of Business Studies*, *14*(2), 155-174. https://doi.org/10.21632/irjbs.14.2.155-174

Spalding, N. J. (1990). The sustainability of the process of urbanization in developing countries. *International Journal of Environmental Studies*, *36*(1-2), 137-144. https://doi.org/10.1080/00207239008710583

Suhendi, & Hamzah. (2024). Sustainability Strategy of Bumdes Based on Business Priority Setting The Topsis Method. *Business Review and Case Studies*, 5(2), 330. https://doi.org/10.17358/brcs.5.2.330

Tamboto, H. J., & Manongko, A. A. C. (2019). Model Pengentasan Kemiskinan Masyarakat Pesisir Berbasis Literasi Ekonomi dan Modal Sosial [Coastal Community Poverty Alleviation Model Based on Economic Literacy and Social Capital]. *Jurnal Ekonomi Pembangunan*, *17*(2), 75-88. https://doi.org/10.29259/jep.v17i2.8966

Wijaya, F. (2023). The contributions, challenges, and role of village-owned enterprises in rural development: A case study of Indonesia. *Journal of Rural Studies*, *97*, 71-82. https://doi.org/10.1016/j.jrurstud.2022.12.007

Winarti, A., & Purwanti, E. Y. (2014). Analisis pengaruh pengeluaran pemerintah bidang pendidikan, kemiskinan, dan PDB terhadap indeks pembangunan manusia di Indonesia periode 1992-2012 [Analysis of the influence of government spending on education, poverty, and GDP on the human development index in Indonesia for the period 1992-2012]. *Diponegoro Journal of Economics*, *3*(1), 1-10.

World Bank. (2000). *World development report 2000/2001: Attacking poverty*. World Bank. https://doi.org/10.1596/0-1952-1129-4