

Research Article

Enhancing Risk Management Maturity in Regional Development: A Case Study of Bogor Regency, Indonesia

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Abstract.

Risk management plays a crucial role in regional development by identifying and mitigating risks that may impact the success of an organization and leveraging opportunities that enable organizational achievement. This research aims to analyze the risk maturity level of risk management in Bogor Regency, Indonesia, utilizing a multidimensional model encompassing Strategy, Planning and Goals, Culture, Standards and Procedures, Processes, Roles and Responsibilities, Compliance, and Crisis Resilience. The methodology employed was a qualitative research method, incorporating data collection through literature review and in-depth interviews with prominent figures in risk management within the regency. The findings reveal that the maturity level of risk management in regional development at Bogor Regency remains at a basic level, scoring between 9-16. This score indicates that while basic risk management functions are implemented in alignment with major external requirements, they are performed on a discontinuous basis and lack a systemic approach. To enhance the risk management maturity level, it is essential to formalize the structure of the risk control unit at both regional apparatus and local government levels, strengthen management commitment, and continuously educate employees about risk management. This research is significant as it highlights the current status and provides actionable recommendations to improve risk management practices, ultimately contributing to more effective and resilient regional development in Bogor Regency.

Keywords: risk management, risk maturity, regional development, Bogor Regency

1. Introduction

Risk management is a systematic process in identifying, analyzing, and controlling risks that may affect the achievement of an organization's or government's objectives [1]. At the national level, the implementation of risk management is crucial to ensure that various programs and policies implemented by the government can run effectively and efficiently [2]. The Deputy BPKP Regulation No. 4 of 2019 on Risk Management

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Guidelines in Local Government outlines the importance of identifying, assessing, and mitigating risks in every governmental activity to achieve goals efficiently and effectively. Risk management is also an integral part of good governance, encompassing principles of transparency, accountability, and participation.

Regional development in Indonesia involves cross-departmental efforts within local governments, villages, enterprises, and other bodies [3]. The success of development is significantly influenced by the collective quality of delivery from all involved parties. Consequently, shared-risk is created, which must be managed together. Neglecting risk by one party can threaten the collective success of the development. Therefore, there must be a unified target whose risks are managed, with the risk appetite of leadership serving as a reference in designing risk policies and control actions.

In line with the importance of risk management implementation, the government conducts assessments through the maturity evaluation of SPIP (Internal Control System). According to the 2024 performance report by BPKP, out of 508 regency/municipal governments, only 118 have reached Risk Management Index (MRI) Level 3 or Risk Defined maturity level. The remaining 341 regency/municipal governments are at Level 2, and 49 are at Level 1.

Bogor Regency itself has only reached MRI Level 2 or Risk Aware, which can be defined as the Bogor Regency Government implementing organizational risk management but in a scattered manner, known as the Scattered Silo Approach. This approach treats risks separately without cross-departmental or functional coordination [4]. A risk in one area can be related to risks in other areas, which if not mitigated, will expose the organization to new risks [5].

Specifically, Bogor Regency faces significant challenges in terms of governance and regional development. Several times, Bogor Regency has experienced corruption operations involving regional leaders, indicating serious problems in governance. Additionally, Bogor Regency's financial reports for three consecutive years have received the "Qualified Opinion" (WDP) rating from the Supreme Audit Board (BPK) [6], indicating weaknesses in regional financial management that could impede development. Inefficiency in financial management can lead to misallocated budgets, reducing the effectiveness of planned development programs[7].

By considering various potential risks such as corruption and poor financial management, Bogor Regency can enhance the effectiveness and efficiency of its development. Implementing good risk management is expected to identify, measure, and manage

these risks so that development can proceed more smoothly and directionally, bringing maximum benefits to the community.

Risk management is a vital process that involves identifying, assessing, and mitigating risks that could potentially impact the success of an organization. It encompasses a range of activities designed to manage and control risks, ensuring that they do not hinder the achievement of organizational goals. Effective risk management not only helps in mitigating potential threats but also leverages opportunities, enabling organizations to achieve their objectives more efficiently [8].

Risk maturity refers to the extent to which an organization has developed and integrated risk management practices into its operations[9]. A mature risk management framework is characterized by systematic, proactive, and continuous processes that are ingrained in the organizational culture. It ensures that risk management activities are aligned with the organization's strategy and goals, facilitating informed decision-making and enhancing resilience against uncertainties [10].

Bogor Regency, a rapidly developing region in Indonesia, faces unique challenges in its regional development efforts. The role of risk management in Bogor Regency is crucial, as the region aims to achieve sustainable growth while mitigating potential risks that could disrupt its progress. The local government has initiated various programs to enhance risk management practices, focusing on areas such as infrastructure development, environmental protection, and public safety[11]. Furthermore, the Government of Bogor Regency has already passed Peraturan Bupati Bogor Nomor 57 Tahun 2017 about Pedoman Penilaian Risiko pada Perangkat Daerah di Kabupaten Bogor, which provides a structured guideline for risk assessment across local government agencies, ensuring a more systematic approach to identifying and managing risks in the region.

However, the implementation of risk management in Bogor Regency faces several challenges, as indicated by the Risk Management Index (MRI) level 2 assessment. One significant challenge is the impact of corruption scandals, notably the arrest of two Bogor Regents by the Indonesian Corruption Eradication Commission (KPK), which has undermined public trust and disrupted governance[12]. Additionally, issues in development planning have further complicated risk management efforts. The planning process in Bogor Regency has been less than optimal, as reflected in the 2023 Regional Budget (APBD) of Bogor Regency, which resulted in an unspent budget surplus (SILPA) of Rp 293 billion due to many government projects remaining incomplete[13]. These challenges

underscore the need for more rigorous and transparent risk management practices to support sustainable development in the region.

This research aims to analyze the current risk maturity level of risk management in Bogor Regency using a multidimensional model. By identifying the gaps and providing actionable recommendations, the study seeks to enhance the effectiveness of risk management practices, thereby contributing to more resilient and sustainable regional development in Bogor Regency[10].

2. Theoretical Study

2.1. Risk Management

Risk for an organization is the possibility of an event occurring that could have a negative impact on the achievement of the organization's goals, often associated with uncertainty and potential losses. In the context of an organization, risk includes elements such as events, impacts or consequences, and probability, where these events can affect various aspects like service delivery, performance, reputation, and organizational sustainability. Factors such as natural events, operations, human resources, politics, technology, and management can become sources of risk that, if they occur, may hinder the achievement of the organization's mission and goals, as well as diminish public trust in the organization[1].

Many theories on risk management have been developed to guide organizations in addressing potential risks. For instance, the Enterprise Risk Management Integrated Framework (ERM) published by COSO (The Committee of Sponsoring Organizations of the Treadway Commission) provides a comprehensive approach to risk management. Additionally, the Risk Management standard published by AS/NZS (Australia/New Zealand Standard) offers another framework for managing risk. Furthermore, the International Organization for Standardization (ISO) has developed its own framework, ISO 31000, which is recognized globally and headquartered in the United Kingdom. According to the AS/NZS Standard 4360:2004, risk management is defined as "the culture, processes, and structures that are directed towards realizing potential opportunities while managing adverse effects." Meanwhile, COSO defines risk management as "a process, effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential

events that may affect the entity, manage risk to be within its risk appetite, and provide reasonable assurance regarding the achievement of entity objectives.”[1]

In the context of public policy management, organizations must address five types of policy risks: 1) planning risk, 2) formulation risk, 3) implementation or organizational risk, 4) leadership or execution risk, and 5) control risk. Planning risk relates to the adequacy of planning resources, including information, tools, personnel, and methods, as well as the availability of sufficient planning capital. Formulation risk involves the precision and quality of the policy agenda, the suitability of policy analysis techniques, and the effectiveness of decision-making processes. Implementation risk is linked to the preparedness of the organization, personnel, and systems responsible for executing the policy. Leadership risk concerns the leader’s commitment to guiding policy implementation, including their ability to adapt and innovate when facing challenges, such as restructuring the organization, personnel, or systems. Finally, control risk refers to the ability to effectively monitor, assess, evaluate, and incentivize the policy’s implementation [14].

2.2. Risk Maturity

Organizational maturity is one of the most important concepts for measuring an organization’s capabilities in various management areas. Maturity is understood as a measure of progress in demonstrating a particular ability or achieving a goal from the initial stage to the desired final outcome[15]. A maturity level is defined as an evolutionary state resulting from a process of continuous improvement. The manner of determining a level of maturity depends on the measurement tools used and their mutual synchronization[16]. Maturity models are typical examples of such tools. The use of models to assess maturity whether in terms of competencies, capabilities, or a level of advancement in management is based on the assumption that relatively predictable and phased patterns of organizational evolution exist[17]. These patterns, when followed, outline a logical path from the initial state to full maturity[18]. Thus, a maturity model can be seen as a series of quantitatively or qualitatively presented stages that reflect the increasing ability of specific attributes to achieve established objectives. This model enables the assessment of such attributes in defined areas and allows for systematic benchmarking analysis, which serves as the foundation for initiating an evaluative process of continuous improvement[19].

The maturity level of risk management, specifically, reflects the current state of risk management implementation at the time of evaluation. It is crucial for organizational management to understand their risk management maturity level during such evaluations to identify gaps between the current state and the desired level of maturity. Addressing these gaps is vital for ensuring that risk management practices meet expected standards. Continuous improvement in the maturity level of risk management is essential, as it enables organizations to enhance their ability to manage risks effectively and achieve their strategic objectives[8].

2.2.1. Multidimensional Model in Risk Maturity

One of the most important circumstances strongly verifying the efficiency of risk management systems and exposing their numerous imperfections in crisis situations. With regard to both the risk management systems and risk management maturity models, crisis situations do not remain neutral, often necessitating the redefinition and reconstruction of either of them. The multidimensional model constitutes a response to the identified increased demand for risk management maturity measurement in crisis situations. The multidimensional risk maturity assessment consists of eight attributes : Strategy, Planning and Goals, Culture, Standards and Procedures, Processes, Roles and Responsibilities, Compliance and Crisis Resilience [20]. A brief explanation of the attributes is presented below :

2.2.1.1. Strategy

In the public sector, strategic business management maturity involves the consideration of uncertainty and risks in the development of organizational strategies, similar to the private sector. However, public entities often face additional layers of complexity due to regulatory, political, and social factors. In formulating growth strategies, public organizations must identify strategic risks such as those affecting service continuity, public reputation, and investment outcomes. The presence of strategic options, action scenarios, and flexibility within these strategies is crucial. High maturity in the public sector is also demonstrated by the adoption of comprehensive risk management strategies, including those tailored to specific risks like operational and market risks. Moreover, the integration of these risk management strategies into the overall management framework of public organizations is essential for assessing their strategic maturity[20].

2.2.1.2. Planning and Goals

In the public sector, the maturity associated with the formulation of organizational goals and plans is crucial, particularly when considering the unique risks inherent in public administration. High maturity is demonstrated by the integration of risk analysis into business planning, utilizing tools such as SWOT Analysis, Failure Mode and Effect Analysis (FMEA), and Risk Matrices. Public sector organizations benefit from action plans that include multiple scenarios and contingency planning, which is vital for addressing the uncertainties and complexities they face. Additionally, the development of plans specifically focused on risk management, such as Risk Response and Mitigation Plans, signifies a mature approach to managing potential threats. Maturity is further indicated by the establishment of goals that directly address risk management, tailored to the specific challenges of the public sector, rather than merely ensuring compliance. For a comprehensive assessment of maturity, it is essential that these risk-focused plans and goals are seamlessly integrated with the broader strategic objectives of the public organization.[20].

2.2.1.3. Culture

In the public sector, the maturity related to building an organizational culture that emphasizes risk management is vital, as it shapes how risks are perceived and managed within governmental and public institutions. A mature public organization demonstrates a strong risk culture where risk awareness and management practices are ingrained in the behavior of employees and stakeholders. This includes fostering an environment where involvement in risk management is a standard practice, and where cultural norms support proactive identification and mitigation of risks. Ensuring alignment between this risk-based culture and the core management processes is crucial to avoid conflicts that could undermine strategic goals. A mature public sector organization integrates risk culture seamlessly with its operational and strategic frameworks, promoting a unified approach to managing uncertainties and challenges inherent in public administration.

2.2.1.4. Standards and Procedures

In the public sector, maturity associated with a formalized approach to risk management is critical for ensuring consistent and effective management of risks across various levels

of governance. This maturity is demonstrated by the formalization of risk management rules and processes through comprehensive internal documents, such as policies on financial reporting, apparatus management, development, anti-corruption, and data protection. These documents provide structured guidance on managing identified risks and are essential for implementing and enhancing risk management practices. A high level of maturity in the public sector is also indicated by the adoption of internationally recognized standards, such as ISO 31000 for risk management, ISO 9001 for quality management, and others relevant to public administration.

Additionally, this formalized structure for risk management should extend to both regional apparatus and local government levels, ensuring a cohesive and unified approach to risk management across all tiers of governance. At these levels, the implementation of Enterprise Risk Management (ERM) systems, fully aligned with international standards and integrated with other management processes, reflects a mature and systematic approach. This ensures that risk management is standardized and deeply embedded in the organizational processes across regional and local governments, enhancing their ability to manage risks effectively while maintaining consistency in governance practices throughout the public sector.

2.2.1.5. Processes

In the government sector, the maturity of planning and implementing process-based risk management is crucial for ensuring effective governance and public service delivery. This maturity is reflected in the thorough implementation of recommended risk management processes, including context setting, risk identification, analysis, assessment, handling, recording and reporting, monitoring and review, communication, consultation, and continuous improvement, as outlined in ISO 31000 (2018). A high level of maturity is further demonstrated by the advanced adaptation of these processes to the specific needs and challenges of the government sector, such as focusing on key risk factors with the highest probability and impact on public operations and services. Ensuring cohesion and synergy across all risk management processes is essential, fostering a systemic approach where these processes operate in a continuous, integrated cycle. This systematic and sector-specific approach to risk management within government institutions ensures that risks are managed consistently and effectively, supporting the overall resilience and reliability of public sector operations.

2.2.1.6. Roles and Responsibilities

In the government sector, the maturity of risk management is closely tied to the establishment of clear roles and responsibilities within the organizational structure. Effective risk management requires a well-coordinated approach where planning, operational, and monitoring activities are aligned across various levels of government. While top management, such as executive boards or senior officials, typically bears primary responsibility for overseeing risk management, including the development and supervision of risk management strategies, a more mature approach involves delegating specific tasks to representatives at lower hierarchical levels. This delegation fosters greater engagement and accountability throughout the organization. Additionally, maturity is indicated by the specialization and professionalization within the risk management function, where responsibilities are carried out by dedicated risk professionals, such as risk managers, Chief Risk Officers, or specialized risk committees, rather than relying solely on traditional departments like finance or internal audit. The involvement of external stakeholders in establishing accountability and transparency in risk management further enhances the maturity of the government sector's approach, ensuring that risks are managed comprehensively and in alignment with broader public objectives.

2.2.1.7. Compliance

In the government sector, maturity at the compliance level involves the effective integration of external legal requirements and internal regulations into the risk management processes. This maturity is demonstrated by the government entity's ability to identify and adhere to relevant national and international laws, guidelines from supervisory authorities, and the specific requirements of regulated public sectors. Additionally, a mature approach includes the establishment and enforcement of internal regulations—such as policies, procedures, and rules—that ensure comprehensive risk management within the organization. The presence of a robust compliance assurance mechanism, such as a Compliance Management System (CMS) or a similar framework, further signifies maturity. This system integrates compliance risk into the broader catalogue of identified risks, enabling active management and continuous monitoring. Such a structured approach ensures that government entities not only meet external and internal compliance requirements but also manage compliance risks proactively, contributing to overall governance and operational integrity.

2.2.1.8. Crisis Resilience

In the government sector, maturity in crisis preparedness is critical for ensuring resilience to crisis situations, enabling the government to recover effectively when crises occur. This maturity is demonstrated by the government’s adoption of resilience-building concepts, such as business continuity and disaster resilience, which are foundational to a robust crisis management framework. To achieve a high degree of resilience, government entities must implement tools such as Early Warning Systems, Business Continuity Plans, Disaster Recovery Plans, crisis scenarios, and contingency plans. These tools ensure that the government is well-prepared to respond to and manage crises efficiently. Furthermore, the integration of these resilience-building activities into a broader culture of preparedness across all levels of government is essential for enhancing overall maturity. This approach not only supports immediate crisis response but also fosters a long-term organizational culture that prioritizes readiness and adaptability, ensuring sustained operational integrity and public trust in times of crisis

2.2.2. Morphological Matrix

The subsequent phase in constructing a multidimensional risk management maturity model involved developing value scales for each attribute, achieved through the application of rigorous morphological analysis. This process led to the creation of the Morphological Matrix, as shown in Table 1. The matrix includes eight attributes, each evaluated on a five-point scale, with values that reflect progressively higher levels of professionalization in the organization’s approach to each assessed area. These graded scales allow for a detailed assessment of the organization’s progress in each attribute, ultimately determining the overall level of risk management maturity. In the context of the government sector, this matrix provides a structured framework for evaluating how effectively government entities manage risks, offering insights into their preparedness, resilience, and compliance with best practices in risk management. This tool is crucial for identifying areas of strength and those needing improvement, ensuring that public sector organizations enhance their risk management capabilities systematically.

TABLE 1: Morphological Matrix.

| Attributes | Attribute Values | | | | |
|--------------------------------|--|--|---|--|--|
| | 1 | 2 | 3 | 4 | 5 |
| A : Strategy | A1 : Including Uncertainty and Risk in the Strategy to a Slight Degree | A2 : Identifying Strategic Risks and integrating them into the Strategy | A3 : Formulating strategic options and action scenarios; ensuring the flexibility of the strategy | A4 : Formulating professional strategies dedicated to risk management | A5 : Providing full integration of general management and risk management strategies |
| B : Planning and Goals | B1: The enterprise's plans take little account of risk | B2 : The enterprise's plans are based on risk analysis – they are characterized by multiple variants | B3 : Plans specifically oriented towards risk management have been formulated Risk management goals relate only to compliance | B4 : Goals relating to risk management have been formulated, taking into account the specifics of the sector | B5 : Full integration of business plans and goals relating to risk management |
| C : Culture | C1 : An organizational culture with little focus on risk management | C2 : Selected components of the organizational culture (e.g. standards, values) are oriented towards risk management | C3 : A risk culture has been built | C4 : A risk culture involving stakeholders | C5 : Full alignment between the enterprise's risk culture and management processes |
| D : Standards and procedures | D1 : A low level of risk management formalization | D2 : The presence of risk management issues in general documents | D3 : Drawing up documents dedicated to risk management Introducing few external risk management standards | D4 : Introducing many external risk management standards | D5 : An integrated risk management system |
| E : Processes | E1 : Few processes incorporating risk management | E2 : Implementing most risk management processes | E3 : Implementing all risk management processes recommended by international standards | E4 : Aligning the risk management processes with the sector's specifics and key risk factors | E5 : Holistic, systemic approach to the risk management processes |
| F : Roles and responsibilities | F1 : Few examples of defining responsibilities for risk management | F2 : Clearly defining top managers' responsibilities for risk management | F3 : Clearly defining responsibilities for risk management at different levels of the hierarchy | F4 : Professional positions and departments responsible for risk management | F5 : Synergy of responsibilities for risk management taking into account the role of external partners |

TABLE 1: Continued.

| Attributes | Attribute Values | | | | |
|-----------------------|--|---|--|--|---|
| | 1 | 2 | 3 | 4 | 5 |
| G : Compliance | G1 : Partially identifying external requirements | G2 : Fully identifying external requirements | G3 : Ensuring compliance with external and internal requirements | G4 : A professional compliance management system or its equivalent | G5 : Continuous improvement of compliance practices |
| H : Crisis Resilience | H1 : Few characteristics of crisis resilience | H2 : Applying selected concepts of developing crisis resilience | H3 : Applying concepts and implementing tools related to crisis resilience development | H4 : Implementing a culture of preparedness | H5 : Organizational learning to improve crisis resilience |

2.2.3. Maturity Levels

The next step in building the model involves creating an assessment scale based on the total points an organization can achieve by evaluating each attribute. This scale categorizes risk management maturity into five levels: fragmentary, basic, completed, professional, and superb, as detailed in Table 2. The scale provides a framework for assessing an organization's maturity, ranging from the fragmentary level, where risk management is minimal and incidental, to the superb level, where risk management is fully integrated into all business operations and continuously optimized.

At the fragmentary level, organizations exhibit only minimal engagement with risk management, lacking both systemic and process-oriented approaches. The basic level is characterized by the implementation of fundamental risk management functions, albeit in a non-systematic and inconsistent manner. The completed level reflects organizations that manage risks in a process-driven and cyclical way, with formalized internal procedures and a clear focus on building resilience. Organizations at the professional level manage risks systemically and professionally, exceeding mandatory requirements, fostering full risk awareness among employees and stakeholders, and tailoring their approach to sector-specific challenges. Finally, the superb level represents the highest maturity, where risk management is fully formalized, integrated across all business activities, and continuously improved through organizational learning and resilience-building.

In the government sector, this scale serves as a valuable tool for assessing and enhancing the maturity of risk management practices, ensuring that public institutions

are not only compliant but also leaders in proactive risk management and crisis preparedness.

TABLE 2: Risk Management Maturity Assesment Scale.

| Maturity Level | Description | Score |
|------------------|--|---------|
| 1 - Fragmentary | There is sparse, selective evidence of taking account of risk in management. | 1 – 8 |
| 2 – Basic | The basic functions of risk management are performed. | 9 – 16 |
| 3 – Completed | The used risk management approach meets all of internal and external requirements. | 17 – 24 |
| 4 – Professional | The approach to risk management exceeds the main requirements and standards and is applied professionally. | 25 – 32 |
| 5 - Superb | Risk management is carried out in an integrated manner, is being continuously improved and can act as a benchmark for other organizations. | 33 - 40 |

3. Methods

This research uses qualitative method in data collecting and analysis. The sample of this research was taken purposively and using internal sampling technique. The research sample was deliberately selected based on certain criteria and categories that have been determined so that it is relevant to the design of qualitative research, because it is considered to have certain characteristics, which can enrich research data [21]. Furthermore, in the internal sampling technique, qualitative research will decide who will be interviewed, when to make observations, or what documents and how much need to be studied [21]. In this study, primary data collection techniques will be used through structured in-depth interviews with 5 key informants with strictly defined criteria. The key informants selected to be interviewed have been determined based on the following criteria: a) Secretary of the Inspectorate of the Bogor Regency; b) Secretary of the Regional Development Planning, Research, and Development Agency of the Bogor Regency; c) Senior Auditor and Risk Management Working Group of the Bogor Regency Inspectorate; d) Assessor of the Internal Control System for the Regional Government of Bogor Regency; e) Member of Strategic Transformation Unit in Bogor Regency. In addition to interviews, secondary data collection will also be carried out by collecting documents deemed relevant to the research questions and objectives. Secondary data such as meeting records, relevant regulations, research agreement documents and electronic media were also collected to be analyzed.

4. Results and Discussion

The research findings indicate that the risk management maturity level in Bogor Regency is at a basic level, scoring between 9-16. This maturity score signifies that an organization is operating at a basic level of risk management maturity. This score indicates that while essential risk management functions are recognized and partially implemented, they are not systematically integrated into the organization's overall framework. Efforts to identify and mitigate risks are often inconsistent and conducted in isolation across departments, leading to fragmented practices and potential gaps in addressing critical risks. Additionally, the awareness and engagement of staff in risk management processes may be limited, suggesting that further development is needed to enhance coordination, embed risk management into the organizational culture, and ensure a more proactive and effective approach to managing risks.

This assessment is based on a multidimensional model that includes aspects such as Strategy, Planning and Goals, Culture, Standards and Procedures, Processes, Roles and Responsibilities, Compliance, and Crisis Resilience. From a **strategic perspective**, the integration of risk management into organizational planning is limited. While strategic risks have been identified, the approach lacks flexibility and proactivity, focusing more on reacting to risks rather than preventing them. This is reflected in the **planning and goals** dimension, where risk analysis has not been consistently integrated into broader development plans. Although some planning efforts account for risks, contingency planning remains underdeveloped, leading to potential vulnerabilities in regional development. In terms of **organizational culture**, the awareness of risk management is growing, but it has not yet been embedded throughout all levels of the government. Employee participation in risk management is minimal, and there is insufficient engagement in proactive risk identification and mitigation. This weak risk culture hinders the overall effectiveness of risk management practices. Similarly, the **standards and procedures** dimension highlights that while some internal documents address risk management, the formalization and consistent application of these standards across departments are still lacking, leading to an uneven implementation of risk management protocols.

The **processes** in place for risk management are at a basic level, focusing primarily on risk identification and assessment. Key processes such as risk mitigation, monitoring, and review are not systematically implemented, resulting in fragmented risk management efforts. Moreover, the **roles and responsibilities** related to risk management are not clearly defined across different levels of government. While top management is

involved in risk oversight, there is a lack of coordinated effort between departments, which weakens the overall risk management framework. In the area of **compliance**, although some efforts have been made to meet external regulations, the application of these compliance measures is inconsistent and needs improvement. A more structured approach is required to ensure adherence to both internal and external regulatory frameworks, especially in areas such as financial governance and anti-corruption measures. Finally, **crisis resilience** remains a major challenge, as Bogor Regency has not fully implemented preparedness measures such as contingency plans or early warning systems. This lack of crisis preparedness increases the region's vulnerability to unforeseen events, potentially disrupting development efforts.

Bogor Regency has a risk management maturity at a basic level, indicates that there is awareness of the importance of risk management, but it has not yet been systematically integrated into all organizational processes. Several factors contribute to this score, including a lack of clear structure for the risk control unit, weak coordination between departments or regional apparatus, and limited management commitment to fully implementing risk management. Additionally, training and education on risk management for employees have not been conducted continuously, leading to low awareness and participation in risk identification and mitigation efforts. These factors result in risk management practices in Bogor Regency being sporadic and not fully effective, which keeps the maturity level at a basic stage.

To enhance the risk management maturity level in Bogor Regency, it is crucial to implement several key strategies, starting with formalizing the structure of the risk control unit. This involves establishing a dedicated and structured team responsible for overseeing risk management across both regional apparatus and local government levels. The risk control unit should have clearly defined roles and responsibilities, ensuring that all departments are coordinated in identifying, assessing, and mitigating risks. Standardized procedures and reporting mechanisms will ensure that risks are managed consistently and escalated efficiently, enabling better alignment with organizational goals. Additionally, strengthening management commitment is essential for driving these efforts. Top-level management must demonstrate active involvement in risk management processes, ensuring that it is prioritized at every level of the organization. This includes allocating the necessary resources and incorporating risk management into strategic planning. Continuous education and training programs for employees will also play a pivotal role in building a culture of risk awareness. Regular training on risk identification, assessment techniques, and mitigation strategies will

empower employees to actively participate in risk management efforts, fostering a more resilient and proactive approach to handling potential risks.

5. Conclusion

In conclusion, the effectiveness of risk management in regional development in Bogor Regency is crucial for achieving sustainable growth and resilience. The current maturity level, assessed as basic, highlights the need for significant improvements. Enhancing the risk management maturity level in Bogor Regency requires a comprehensive approach that involves formalizing the structure of the risk control unit, strengthening management commitment, and continuously educating employees about risk management. By implementing these strategies, the region can create a robust risk management framework that not only identifies and mitigates risks effectively but also promotes a culture of resilience and proactive governance. This, in turn, will contribute significantly to achieving sustainable development and improving overall organizational performance.

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