

## Policy Direction for Strengthening Accountability and Transparency in the Management of Direct Grant Receipts at BMKG

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### ABSTRACT

The Meteorology, Climatology, and Geophysics Agency (BMKG) increasingly relies on external grants both cash and in kind to strengthen early warning, forecasting, and service delivery, yet recurring administrative irregularities in grant receipt and management continue to generate audit exposure and weaken the reliability of institutional reporting. This study aims to examine why grant governance problems persist despite an established legal framework and organizational responsibility structure, and to identify policy options that can improve transparency, accountability, and rule-of-law compliance in BMKG's grant governance. Methodologically, the research employs a qualitative, descriptive case-study approach with a policy and governance analysis orientation, drawing on a combination of document review (regulations, internal guidelines, and relevant administrative records) and stakeholder perspectives from organizational units involved in planning, finance, asset management, procurement, and internal oversight. Data were analyzed through thematic content analysis using good-governance principles as analytical benchmarks, complemented by a root-cause perspective and a SOAR-based evaluation to assess strengths, opportunities, aspirations, and results for reform implementation. The findings show that the most critical gaps are not merely normative but operational: fragmented workflows, delayed and uneven reporting practices, limited procedural literacy among implementers, and weak enforcement mechanisms often compounded by non-integrated systems and manual workarounds that reduce traceability and undermine documentation quality. The study further finds that isolated interventions are insufficient; improvements in socialization alone will not sustain compliance without standardized operational guidance and enforceable accountability.

Keyword: Grant Governance, Good Governance, Accountability, SOP Compliance

### INTRODUCTION

The Meteorology, Climatology, and Geophysics Agency (BMKG) occupies a strategic position in safeguarding Indonesia's resilience against climate variability, extreme weather, and geophysical hazards by translating scientific observations into actionable public services. In contemporary disaster governance, national meteorological and climate service institutions are increasingly expected to operate as "fit-for-purpose"

knowledge organizations that support risk-informed decision making and resilience planning, particularly through strengthened warning, forecasting, and service delivery functions (Islam et al., 2025; Mahon et al., 2019).

To execute this mandate, BMKG increasingly relies on grants both cash and in kind from domestic and international partners as instruments for strengthening institutional capability, accelerating modernization, and expanding service reach. In development cooperation practice, external financing (including earmarked funding mechanisms) can materially shape operational priorities and implementation outcomes, making governance quality in grant management a critical determinant of whether support is converted into credible and sustained public value (Dreher et al., 2024; Heinzel & Reinsberg, 2024).

The core issue examined in this article is weak governance of grant receipts, particularly the potential for grants to remain unrecorded or inconsistently recorded across financial and asset systems. This problem sits within the wider discourse on public-sector financial management, where strengthened accounting controls and transparent reporting are central not only to integrity and anti-corruption objectives, but also to advancing broader public goals that increasingly demand measurable accountability from public institutions (Nakpodia et al., 2024; Paterson et al., 2019).

Grants received by BMKG do more than complement routine budget allocations; they can function as accelerators of innovation, technology access, and service expansion—particularly for early warning systems, research capacity, and operational modernization. Yet these benefits depend on disciplined recording and disclosure practices: when grant values and related assets are not captured consistently, accountability relationships weaken and the quality of public-sector financial reporting deteriorates, reducing the usefulness of statements for oversight and performance management (Muraina & Dandago, 2020; Tran et al., 2021).

The central problem framing this study is the irregular recording and reporting of grant receipts at BMKG, reflected in incomplete registration with competent authorities, inconsistent recording of grant-funded goods/services in asset systems, and partial disclosure in financial statements. Research on fiscal disclosure emphasizes that disclosure quality is strengthened when audit-related governance supports credible oversight, while public-sector reporting practices especially disclosure completeness are closely tied to the strength of auditing arrangements and the incentives they create for accurate statements (Copley, 1991; Zhen Li et al., 2023).

The urgency of correcting these irregularities becomes clear when institutional risks are examined. Discrepancies between operational realities and official reports can trigger audit issues and delays, and persistent weaknesses in reporting and rectification can amplify governance risks by creating repeated findings and reducing the perceived reliability of the institution's controls and disclosures (Liu & Lin, 2012; Payne & Jensen, 2002). These risks are not isolated; they can develop into a chain of consequences in which minor reporting lapses evolve into accounting inconsistencies, which then escalate into audit findings and reputational costs that constrain future cooperation.

Scholarship on grants-management software and public-sector ERP development shows that grants processes are especially vulnerable when organizations lack integrated, well-designed modules and standardized workflows, while adoption research indicates that perceived usefulness and ease of use strongly influence whether staff consistently engage with mandated digital systems (Nguyen et al., 2024; Wagner et al., 2006). To move

beyond description, this article applies a root-cause perspective distinguishing immediate (Level 1) drivers from deeper (Level 2) enabling conditions across people, process, and technology—covering delayed reporting, limited procedural understanding, and suboptimal system functioning (e.g., SILEBAH). Evidence from digital government research underscores that usability and credibility are decisive for sustained system use, and that service design characteristics (including support and accessibility) shape user experience and continuity of engagement both of which are critical for compliance in routine administrative reporting (Chan et al., 2025; Huang & Benyoucef, 2014).

At the institutional level, the challenge is aligning central policy design with field-level implementation capacity, including training, enforcement, incentives, and system usability so that formal rules translate into consistent operational behavior. Studies on user-centricity in e-government caution that public values (e.g., accountability and representation) can conflict with user-centric design choices, while public-sector digital transformation research highlights that transformation requires organizational reinvention, not merely digitizing existing routines implying that reforms must address culture, governance, and capability alongside technology (Carter et al., 2024; Weigl et al., 2024).

Methodologically, this article adopts a policy and governance analysis approach combining document review, survey evidence, and institutional assessment to trace causal links from regulatory design to implementation outcomes and from operational irregularities to institutional risk. Policy analysis scholarship emphasizes that evidence-informed policy work in multi-level governance depends on systematically structuring advice and diagnosing implementation constraints, while evidence based policymaking literature stresses the importance of clarifying what counts as evidence and how multiple forms of evidence can be assessed and integrated in policy relevant evaluation.

Table 1. People–Process–Technology Diagnosis of Irregular Grant Recording and Reporting

Dimension	Level 1 (Immediate) Issues	Level 2 (Underlying) Factors	Main Governance Risks
People	Delayed submission of grant receipt reports from work units	Uneven competency, limited awareness of reporting urgency, high workload turnover	Recurrent audit findings; weak managerial control
People	Incomplete understanding of grant procedures (cash/in-kind; goods/services)	Limited socialization; insufficient technical assistance; weak onboarding	Misclassification and under-recording of grants/assets
Process	Grant objects completed but not registered with MoF	Weak enforcement; fragmented approval/verification steps; unclear escalation path	Discrepancy between operational reality and official records
Process	Inconsistent recording in SIMAK BMN (asset recognition)	Non-standard documentation; unclear handover between	Unrecognized state assets; unreliable BMN database

Dimension	Level 1 (Immediate) Issues	Level 2 (Underlying) Factors	Main Governance Risks
		technical and finance/asset teams	
Technology	Suboptimal utilization/performance of SILEBAH	Non-user-centric design; limited training; system integration gaps	Reliance on manual spreadsheets; omissions and errors
Technology	Fragmented data across systems (finance vs asset vs program)	Lack of interoperability; inconsistent master data	Partial disclosure in financial statements; weak traceability

Source: Author, 2025

Ultimately, the article aims to formulate actionable recommendations to strengthen grant receipt governance at BMKG through capacity building, process reinforcement, and digital system optimization so that recording, reporting, and asset recognition become complete, timely, and auditable. Research on root cause analysis in internal auditing highlights the value of RCA for producing insight and organizational learning beyond surface symptoms, while public-sector maturity assessment work shows how structured capability assessments can guide roadmaps for data and system improvements aligned with organizational goals.

## METHODOLOGY

The Research Method section presents a structured and systematic approach for examining grant receipt governance at BMKG. This study adopts a qualitative design using a descriptive case study approach to capture how governance arrangements operate in practice and where implementation gaps emerge. Analytically, the study is anchored in Good Governance principles particularly transparency, accountability, and the rule of law as operational benchmarks for assessing irregularities such as unrecorded grants, incomplete disclosure, weak procedural understanding, and inconsistent enforcement (Biswas et al., 2019; Nam & Pardo, 2014).

The study population comprises BMKG organizational units that directly or indirectly engage in grant management functions, including planning, finance, state asset administration, procurement, and internal oversight. Participants were selected purposively to represent different responsibilities and viewpoints policy decision makers, operational implementers, and internal controllers so that governance risks and institutional weaknesses can be mapped comprehensively. Data were collected through semi-structured interviews and document analysis of relevant regulations, SOPs, audit reports, financial statements, and internal guidance, using study-specific interview guides and document review checklists to ensure procedural consistency (Kayesa & Shung-King, 2021; Kuruppu et al., 2016).

Data collection was conducted in sequential stages: initial coordination with BMKG leadership, identification of relevant units, interview scheduling, and systematic compilation of internal documents related to grant governance. Prior to each interview, participants received a clear explanation of research objectives, procedures, expected

duration, and their rights, followed by the collection of informed consent. Interviews were conducted face-to-face or online, audio-recorded with permission, and transcribed to preserve accuracy, while ethical safeguards were maintained through confidentiality protections, secure data handling, and anonymized identifiers in reporting consistent with the view that ethical decision-making is continuous throughout the research process and must be supported by appropriate procedural ethics practices (Chiumento et al., 2020; Farrugia, 2019).



Figure 1. Research Methodology on Grant Governance at BMKG  
Source: Author, 2025

For analysis, the study applies thematic content analysis, coding interview transcripts and documents into themes derived from the Good Governance framework (transparency, accountability, rule of law) and policy implementation model (communication, resources, disposition, bureaucratic structure). These thematic results are then integrated with SOAR analysis (Strengths, Opportunities, Aspirations, Results) to develop realistic yet transformative policy options for improving grant governance at BMKG.

## RESULTS AND DISCUSSION

### 1. SOP-Based Operational Strengthening as the Reform Foundation (Option 2)

A ratified SOP functions as the operational “constitution” of grant governance by turning legal mandates into executable steps. It reduces interpretation gaps across work units by defining roles, documents, and decision gates in one standardized flow. In grant contexts, this standardization is critical because the highest leakage risk often appears between receipt, verification, and recording. SOP-driven “compliance by design” also



strengthens auditability because each step can be linked to an evidence requirement and an accountable actor. For BMKG, the Head's authority to issue internal regulations makes SOPs legally binding and institutionally enforceable. This is consistent with research showing that compliance-oriented design in government information exchanges can improve monitoring with fewer resources (Bharosa et al., 2013).

SOPs are most effective when they capture tacit know-how and translate it into repeatable routines that survive staff rotation. They convert fragmented practice into a shared organizational memory that supports consistent execution across locations and units. In BMKG's setting, a grant SOP should explicitly map grant types (cash and in-kind), handover points, document minimums, and recording triggers. This mapping closes procedural ambiguity that allows "unrecorded grants" to persist despite strong legal foundations. A well-structured SOP also becomes the baseline for training content, monitoring checklists, and corrective action pathways. This aligns with knowledge-management evidence that procedures and standardization help transform workflows into stable organizational competence (Chang et al., 2009).

The SOAR "strengths" indicate BMKG has both legal clarity and an enabling structure to anchor SOP development. The presence of a formal responsible structure (Main Secretary) supports accountability for cross-unit coordination. Benchmarking from other agencies can accelerate SOP drafting, but adaptation is required to reflect BMKG's grant diversity and asset implications. The SOP should not be a narrative document only; it must include process maps, forms, and an evidence checklist. To prevent gaps, it should define mandatory verification before any operational use of grant-funded resources begins. When designed this way, the SOP becomes an infrastructure for integrity rather than a compliance ornament.

Table 2. Option 2 (SOP) Implementation Targets and Evidence Requirements

Dimension	Indicator	Target	Timeline	Primary Evidence
Legal legitimacy	SOP issued as Head of BMKG Regulation	1 regulation	6 months	Regulation number/date
Process efficiency	Average receipt-to-recording cycle time	-50%	Year 1	Workflow logs/case tracking
Compliance	Cases following SOP flow	100%	Year 1	Internal audit sampling
Audit readiness	Findings on unclear/absent procedures	0	Year 1	Audit reports & working papers

Source: Author, 2025

The SOAR "opportunities" emphasize that SOPs can be integrated into digital workflows rather than remaining static text. Digital workflow integration enables timestamps, automated routing, and traceable approvals that strengthen the audit trail. It also reduces cycle time by minimizing rework and unclear handovers between technical units and administrative functions. For BMKG, this means the "receipt-to-recording" timeline can be managed as a measurable process instead of a negotiated practice. Integration also supports scalable oversight, because monitoring can rely on system logs rather than ad hoc reporting. This directly supports the intended result of a 50% cycle-time reduction in the first year of implementation.

The “results” targets in Option 2 are strong because they are measurable and time-bound, but they require operational instrumentation. Ratification within six months should be paired with a rollout package that includes templates, role definitions, and a compliance checklist. The 100% compliance target within one year should be interpreted as “100% process cases follow the SOP flow,” verified by sampling and log review. The “zero audit findings” aspiration is realistic only if the SOP is implemented with consistent evidence capture and not merely published. To make this provable, each SOP step should define minimum artifacts, such as handover minutes, verification sheets, and recording confirmations. Without these artifacts, auditors will still find gaps even when a regulation exists on paper.

In discussion, SOPs must be treated as the first phase because they define the rules that training and enforcement will later operationalize. If the SOP is absent or vague, training will amplify inconsistent interpretations and weaken governance cohesion. If enforcement comes early, sanctions risk being perceived as unfair because expectations are not yet clear and standardized. Therefore, SOPs should be framed as the fairness mechanism that stabilizes expectations for all units and roles. Once SOPs exist, education can focus on execution quality rather than debate about what the rules are. This sequencing establishes credibility and reduces resistance to later accountability mechanisms.

## 2. Regulation Socialization as Capability Building and Internalization (Option 1)

Socialization is effective when it is designed as a learning system rather than a one-off dissemination event. Digital platforms make it possible to reach all work units with consistent messages and standardized materials at low marginal cost. Pre- and post-testing is essential to verify learning gains and to separate attendance from actual comprehension outcomes. This measurement logic supports BMKG’s target of a 90% improvement in understanding scores among participants. It also helps identify which content areas are most misunderstood, enabling targeted remediation instead of generic repetition. Evidence from systematic work on training effectiveness highlights the importance of measuring learning outcomes, including pre- and post-assessment practices (Strojny & Dużmańska-Misiarczyk, 2023).

However, knowledge gain alone does not guarantee workplace behavior change, so socialization must include reinforcement and feedback loops. E-learning environments become more effective when learners receive structured feedback and opportunities to practice collaboratively. For BMKG, that means training should include scenario-based exercises that mirror real grant cases, including receipt documentation and recording steps. This approach supports the aspiration that personnel become proactive “compliance ambassadors” rather than passive recipients of instruction. It also reduces procedural errors because participants learn the logic of the process, not just the wording of regulations. Research on e-learning shows cooperative learning and feedback can significantly increase effectiveness and learning outcomes in digital environments (Krause et al., 2009).

SOAR strengths show BMKG already has a clear legal basis and leadership awareness that can drive participation and seriousness. The formal responsibility structure enables messaging consistency, because training content can be anchored to one accountable office. To avoid generic material, modules should be role-based, distinguishing receiving officers, verifiers, asset recorders, and reporting officers. Role-

based learning increases relevance and reduces fatigue because participants see direct links to their daily tasks. Socialization should also incorporate a “common errors library” so units learn from real administrative mistakes. When structured this way, training becomes a practical tool for changing behavior rather than a compliance ritual.

The target of reducing procedural errors by 75% within six months requires post-training support, not only classroom-style delivery. BMKG can implement a weekly online “grant clinic” where units bring live cases and receive guided corrections. A centralized portal can store SOP-linked checklists, sample documents, and a searchable Q&A archive so solutions are reusable. This creates an organizational memory that scales beyond individual trainers and avoids repeated confusion in different units. It also generates process data that can be used to update modules based on actual problem patterns. With these features, socialization becomes a continuous improvement mechanism rather than a periodic event.

The aspiration of 100% participation across grant recipient work units within one year must be operationalized through governance tools. Participation can be tied to official assignment letters, completion certificates, and minimum pass scores for key roles. Training schedules should be aligned with the grant cycle so units receive modules before peak reporting periods. To reduce noncompliance risk, completion should be tracked in an LMS with automated reminders and escalation for overdue units. This approach supports fairness because enforcement later occurs only after units have been given a real opportunity to learn. In addition, participation data becomes evidence of due process if compliance issues arise later.

Table 3. Option 1 (Socialization) Learning and Process Outcome Metrics

Component	Metric	Target	Timeframe	Data Source
Learning gain	Pre-post test score improvement	+90%	Per cohort	LMS analytics
Coverage	Work units completing modules	100%	1 year	Attendance/LMS records
Process quality	Administrative/procedural errors	-75%	6 months	Error log & reviews
Reinforcement	Clinic sessions and FAQ usage	Active routine	6 months	Ticketing/portal logs

Source: Author, 2025

In discussion, socialization is the bridge that converts SOP text into operational capability across a diverse organization. Without training, SOPs risk becoming “paper compliance” that does not change daily practice. With training, units share a common interpretation, reducing delays caused by conflicting assumptions about documents and steps. Socialization also supports cross-unit coordination because everyone works from the same process logic and evidence standards. When combined with post-training reinforcement, knowledge becomes durable and less vulnerable to turnover and rotation. This is why socialization must follow SOP issuance and precede formal enforcement.

### 3. Sanctions and Rule Enforcement as Compliance Assurance (Option 3)

Sanctions are most effective when employees perceive that violations are detectable and consequences are consistent. Multilevel sanctions formal, social, and



personal can influence compliance differently depending on whether individuals are “detrable” or comply based on internal conviction. This distinction matters for BMKG because enforcement strategies should not assume one universal motivation across all units. A fair enforcement design therefore needs clear SOPs and verified training coverage before sanctions become active. When expectations are known and standardized, sanctions reinforce norms rather than trigger resentment. Research on deterrability shows that multilevel sanctions affect compliance through different pathways across employee profiles (Jaeger et al., 2021).

Enforcement also benefits from balancing punishment with persuasion to preserve legitimacy and long-term support for rules. If enforcement is purely deterrence-based, it can generate resistance, reduce trust, and harm cooperation—especially in complex administrative processes. A hybrid approach that escalates responses from coaching to formal sanctions is typically more sustainable for organizational governance. For BMKG, first-time procedural errors can be met with mandatory corrective coaching, while repeated or intentional violations trigger stronger administrative consequences. This sequencing fits the logic that sanctions without education and clear procedures are unfair and counterproductive. Evidence from compliance literature highlights the ongoing debate between deterrence-based enforcement and cooperative strategies that build support for the law (Murphy, 2008).

SOAR strengths indicate BMKG has a command hierarchy and an Inspectorate mechanism that can support consistent enforcement. However, consistency depends on standardized classification of violations and evidence requirements to avoid selective or subjective treatment. Enforcement should categorize violations by type, such as late reporting, missing documents, bypassed SOP steps, and integrity breaches. Each category should have a defined response ladder that specifies corrective actions, deadlines, and escalation thresholds. This design transforms enforcement from ad hoc reactions into a predictable governance process. Predictability is essential for fairness perceptions, which in turn affect voluntary compliance and collaboration.

Table 4. Option 3 (Enforcement) Tiered Response Framework

Violation Category	Example	Stage 1 Response	Stage 2 Response	Required Evidence
Timeliness	Late grant reporting	Written warning + deadline	Escalation to management	Timestamp logs
Completeness	Missing mandatory documents	Correction request	Mandatory coaching + review	Checklist & file set
Procedure	SOP step bypassed	Internal verification	Administrative sanction	Review memo & trail
Integrity	Data manipulation	Special inspection	Disciplinary process	Audit working papers

Source: Author, 2025

The “results” targets such as 99% timely reporting within 18 months—require enforcement to be integrated with monitoring infrastructure. Automated reminders and

escalation notices should be triggered by workflow timestamps rather than by manual chasing. Inspectorate reviews can then focus on exceptions, repeat violations, and high-risk units rather than spending resources on routine follow-up. Enforcement must also be documented, creating a traceable record of decisions and actions for each case. This documentation provides transparency and reduces disputes, because decisions can be tied to SOP-defined standards. Over time, documented enforcement also becomes learning data to refine training and SOP clarity.

The aspiration of building a compliance culture depends on introducing rewards alongside sanctions to avoid “compliance fatigue.” Recognition for timely reporting, high-quality documentation, and zero-error cycles can motivate units to internalize standards. Rewards can include formal acknowledgment, priority support, or performance appraisal signals, depending on BMKG’s HR policies. This balanced consequence management strengthens legitimacy because compliance is framed as professional excellence rather than fear of punishment. When combined with transparent monitoring, it also reduces the risk that enforcement is perceived as political or arbitrary. The SOAR framing supports this by emphasizing fairness, transparency, and professionalism as core cultural goals.

Enforcement must be the final phase in BMKG’s reform cycle so that it is both fair and effective. Once SOPs are clear and training is complete, enforcement becomes a quality assurance tool rather than a punitive shock. Consistency and documentation protect the organization and personnel by clarifying expectations and preventing arbitrary decisions. When monitoring is data-driven, enforcement focuses on exceptions and repeat offenders rather than punishing minor first-time errors. This approach supports the intended outcome of near-universal timeliness while preserving morale and professionalism. Therefore, Option 3 should be activated only after Options 2 and 1 have established clarity and capability.

#### 4. Integrated and Sequential Strategy: Standardize, Educate, Then Assure

The SOAR comparison shows the three options should not be treated as competing alternatives but as one implementation chain. Operational reforms typically fail when they optimize one dimension while ignoring process coherence and user adoption. Business process redesign literature emphasizes that efficiency gains depend on redesigning workflows end-to-end rather than fixing isolated steps. For BMKG, SOPs define the end-to-end grant pathway, training ensures adoption, and enforcement stabilizes compliance behavior. This integrated logic reduces fragmentation across units and minimizes “hand-off failures” that produce unrecorded grants. Evidence from process redesign cases supports the value of reengineering to improve efficiency by optimizing organizational workflows (Battilani et al., 2022).

Digitalization strengthens the integrated approach because it embeds the SOP into workflow logic and generates verifiable traces. Business process management research highlights how system design and work design interact to shape user performance and process effectiveness. For BMKG, digital workflows can enforce sequence, require mandatory fields, and generate reminders, thereby reducing administrative back-and-forth. Digital systems also make training more actionable because modules can mirror the actual screens and steps users must follow. When technology, work design, and process logic align, adoption improves and the organization can scale compliance monitoring efficiently. This is consistent with evidence that BPM

system design is influenced by work design choices and virtualized process execution (Bartlett et al., 2025)

In practical terms, Phase 1 should focus on producing SOPs that are executable, evidence-based, and role-specific. Phase 2 should translate SOP requirements into learning modules, simulations, and job aids aligned with each role's responsibilities. Phase 3 should connect monitoring data to tiered consequences so enforcement is predictable and proportional. Across all phases, a single governance team should coordinate policy, training, workflow configuration, and monitoring logic. This avoids the common failure mode where each unit optimizes its own piece while the overall chain remains broken. The integrated strategy therefore treats grant governance as a system, not a set of disconnected interventions.

The SOAR “strengths” create an enabling environment for sequencing, especially leadership awareness and formal responsibility structures. Leadership support is essential for ratifying SOPs quickly and ensuring training participation reaches 100% coverage. It also protects fairness by ensuring enforcement is applied consistently and transparently rather than selectively. The “opportunities” in digital platforms and external collaboration further strengthen sequencing because materials and workflows can be standardized at scale. Collaboration with experienced agencies can improve the quality of SOP templates and training content while maintaining alignment with national systems. These enablers reduce implementation friction and increase the probability that targets cycle time, error reduction, and timeliness are achieved.

Table 5. Integrated Reform Sequence and Implementation Logic

Phase	Core Activity	Primary Output	Success Metric	Target Timeline
1	SOP standardization	Ratified SOP + templates	SOP issued	6 months
2	Education & socialization	Role-based modules + clinics	+90% learning gain; 100% coverage	12 months
3	Assurance & enforcement	Monitoring + consequences	99% timeliness; declining violations	18 months

Source: Author, 2025

A common risk in sequential strategies is delay between phases, which can weaken momentum and create confusion. BMKG can mitigate this by designing phases with overlapping preparation, such as building training modules while SOPs are being finalized. Pilot implementation in a small set of high-volume grant units can identify bottlenecks before full rollout. Feedback from pilots should be used to refine SOP clarity, training content, and workflow steps, avoiding costly revisions later. This also builds internal champions who can support wider adoption and reduce resistance. As a result, sequencing remains disciplined without becoming slow or bureaucratic.

The integrated approach directly addresses the systemic roots of unrecorded grants: unclear processes, uneven capability, and weak control continuity. SOPs eliminate ambiguity, training builds competence, and enforcement ensures sustainability and fairness. Digitalization accelerates each phase by making procedures executable and evidence generation automatic. The strategy also supports credibility with oversight bodies because improvements can be demonstrated with measurable indicators and

traceable documentation. Therefore, the correct policy stance is not “choose one option,” but “implement all three in the correct order.” This is the most coherent pathway to fundamental and sustainable grant governance reform in BMKG.

#### 5. KPI-Driven Monitoring, Internal Control Strengthening, and Audit Readiness

A reform program becomes sustainable when outcomes are tracked continuously through measurable indicators and evidence trails. In public sector audits, the quality of oversight increasingly depends on whether systems generate reliable, traceable data rather than relying on narrative explanations. The role of information systems auditing in public sector financial audits highlights why digital traces and control design matter for audit credibility. For BMKG, this means the reform should institutionalize a minimal evidence set for each grant case, enabling internal assurance and external audit readiness. When evidence is system-generated, it reduces disputes and accelerates verification during inspections. Research on IS auditing in public sector financial audits supports the importance of integrating system-level considerations into governance and assurance.

Oversight also improves when inspection feedback triggers changes in procedures and quality control systems. This aligns with BMKG’s need to treat monitoring as a learning loop rather than a punitive after-action. A KPI dashboard provides the mechanism to detect deviations early, prioritize coaching, and validate whether SOP and socialization are producing the intended changes. It also supports fairness by ensuring enforcement is based on documented performance and process data, not on anecdote or personal judgment. For BMKG, the Inspectorate can use KPI signals to focus reviews on exception patterns rather than repeating routine checks. Such inspection-driven improvements in audit procedures and quality controls are consistent with findings about how oversight feedback influences auditing practices.

A consolidated KPI set should directly reflect the “Results” commitments stated in the SOAR tables. Core KPIs include receipt-to-recording cycle time, training coverage, knowledge gain, procedural error rates, and on-time reporting compliance. Each KPI should have a definition, formula, responsible owner, and a data source that can be independently verified. Without clear ownership, KPI reporting becomes passive and does not trigger corrective action. With ownership, KPI trends can activate targeted interventions such as refresher training, workflow adjustments, or focused inspections. This turns governance from reactive correction into preventive control management.

Internal control strengthening is operationally expressed through routine reconciliations and exception management rather than through policy statements. BMKG should implement periodic reconciliations between internal logs, asset registers (for in-kind grants), and recording evidence linked to the finance system. Exception reports should be categorized by cause—missing documents, late input, misclassification, or incomplete asset recognition—so fixes are specific rather than generic. When exceptions are tracked, the organization can distinguish between capability problems and process design problems. This distinction matters because the remedy differs: training fixes capability, while SOP/workflow changes fix design. Over time, exception analytics becomes a governance asset that continuously improves grant management reliability.

Audit readiness requires that compliance is demonstrable at the case level, not only asserted at the policy level. Each grant case should have a standardized evidence packet that includes receipt documentation, verification proof, recording confirmation,



and reporting outputs. If workflows are digitized, this packet can be assembled automatically through logs and linked documents, minimizing manual compilation. This reduces the operational burden during audits and improves the consistency of evidence quality across units. It also supports “zero findings” aspirations because auditors can trace process adherence quickly and clearly. In short, audit readiness becomes a daily operational state rather than a periodic emergency response.

Table 6. Consolidated KPI Dashboard for BMKG Grant Governance Reform

KPI	Operational Definition	Target	Frequency	Primary Data Source
SOP issuance	SOP legally published and active	Completed	Milestone	Regulation registry
Cycle time	Days from receipt to verified recording	-50%	Monthly	Workflow/case logs
Training coverage	% grant units completing modules	100%	Quarterly	LMS records
Knowledge gain	Pre-post score improvement	+90%	Per cohort	LMS analytics
Error rate	Procedural/admin errors per case	-75%	Monthly	Review & correction log
Timely reporting	% reports submitted on time	99%	Quarterly	Reporting timestamps

Source: Author, 2025

KPI-driven monitoring connects the three options into a single measurable reform architecture. SOPs define what should happen, socialization enables people to do it, and monitoring shows whether it is happening consistently. Enforcement becomes fairer and more effective because it is grounded in verifiable data rather than subjective impressions. The Inspectorate’s oversight can shift toward risk-based reviews using KPI signals and exception patterns. As KPI trends improve, BMKG strengthens credibility with external supervisors and partners because progress is visible and auditable.

## CONCLUSION

BMKG’s growing reliance on cash and in-kind grants makes the quality of grant-governance a decisive factor in whether external support translates into credible public value. This study concludes that the main governance challenge is not the absence of legal foundations, but the persistence of irregular recording and reporting shown in incomplete registration, inconsistent asset recognition, and partial disclosure where gaps between operational realities and official records can escalate into repeated audit findings and reputational risk. The findings further indicate that these irregularities are systemic, rooted across people, process, and technology dimensions: uneven competency and delayed reporting, fragmented verification and handover steps, and suboptimal or non-integrated digital systems that encourage manual workarounds and weaken traceability.

Accordingly, the most coherent reform stance is a sequenced implementation chain rather than choosing isolated options: first standardize operations through a ratified, evidence-based SOP; second, convert SOP requirements into role-based learning

and reinforcement; and third, activate tiered enforcement once expectations are standardized and capabilities are built, supported by digital workflow logging to strengthen auditability and reduce cycle time. Finally, the study concludes that sustainability depends on KPI driven monitoring and internal control strengthening so progress is continuously measurable and defensible at the case level. A consolidated dashboard tracking receipt to recording cycle time, training coverage and learning gains, error rates, and on-time reporting should be paired with routine reconciliations and exception management across finance and asset records, so corrective actions target the real causes (capability versus process design).

#### ACKNOWLEDGEMENT

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