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Project Management Gaps in Disaster Recovery: A Common Operating Picture Framework for Recovery Governance

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ABSTRACT: Disaster recovery is often treated as a policy, funding, or reconstruction issue, yet it also functions as a complex project management environment involving uncertain scopes of work, multiple stakeholders, funding requirements, procurement controls, contractor coordination, infrastructure dependencies, risk escalation, and performance accountability. This article uses a qualitative document based conceptual analysis to examine project management gaps in disaster recovery and develop a Recovery Project Common Operating Picture (COP) Framework for recovery governance. The analysis synthesizes disaster recovery doctrine, project management principles, public assistance and disaster recovery funding systems, infrastructure interdependency research, situational awareness theory, emergency information systems literature, and public sector oversight reports from the United States and Australia. The findings show that recovery delays are not caused only by disaster severity or funding limitations. They are also shaped by weak project visibility, fragmented stakeholder coordination, unclear responsibilities, delayed approvals, procurement bottlenecks, unmanaged dependencies, poor risk escalation, and limited performance monitoring. The article develops a nine-component framework that integrates scope definition, stakeholder responsibility mapping, schedule and milestone tracking, cost and funding visibility, procurement and contractor coordination, infrastructure dependency monitoring, risk and issue control, community impact tracking, and performance reporting. The article contributes to disaster recovery and project management scholarship by positioning the COP as a recovery governance and decision support mechanism that can strengthen shared visibility, accountability, coordination, and project performance in complex post-disaster environments.

KEYWORDS: disaster recovery; project management; Common Operating Picture; qualitative document analysis; recovery governance; stakeholder coordination; infrastructure dependency; project performance; disaster risk management.

INTRODUCTION

Disaster recovery is commonly understood as the process of restoring, redeveloping, and revitalizing communities after a disaster. It includes debris removal, infrastructure restoration, utility repair, housing recovery, healthcare facility restoration, school reopening, public service restoration, and long-term community rebuilding. Although recovery is often discussed through policy, funding, resilience, and community planning perspectives, it should also be understood as a complex project management environment. Recovery work is usually delivered through multiple interdependent projects that involve defined scopes of work, schedules, budgets, stakeholders, procurement requirements, contractors, documentation standards, risks, dependencies, and performance expectations(Kumah, Victoria Maame Afriyie, et al.,2026).

This project management perspective is important because disaster recovery projects operate under conditions that differ from conventional projects. They are initiated in damaged and uncertain environments where information is incomplete, priorities change, public expectations are high, and administrative requirements are complex. Project teams may need to manage damaged infrastructure, changing scopes of work, delayed approvals, funding uncertainty, procurement requirements, contractor shortages, environmental reviews, supply constraints, and community impacts. These conditions make recovery projects difficult to plan, coordinate, monitor, and complete within expected time and cost limits(Alkindi, 2026).

The United States and Australia provide useful official document contexts for examining disaster recovery as a project-based governance environment. In the United States, FEMA's National Disaster Recovery Framework provides a national structure for coordinating recovery across federal, state, local, tribal, territorial, private sector, nonprofit, and community partners (Federal Emergency Management Agency). FEMA's Public Assistance Program also demonstrates the project-based nature of recovery by requiring eligible work documentation, cost estimation, procurement compliance, environmental and historic preservation review, grants management, reimbursement, and project closeout(Van & Nguyen, 2026). In Australia, the Disaster Recovery Funding Arrangements provide a Commonwealth and state framework for disaster relief and recovery funding, including restoration of essential public assets and infrastructure betterment (National Emergency Management Agency). The Australian National Audit Office has examined administrative challenges in these arrangements, highlighting the importance of clear governance, guidance, oversight, and accountability (Australian National Audit Office)(Afadzinu, 2026).

These recovery systems show that delays are not caused only by disaster severity or funding shortages. Delays may also result from project management and governance weaknesses. Recovery stakeholders often maintain separate information systems and reporting processes(Lagos, 2026). When information streams related to damaged assets, funding eligibility, construction schedules, utility restoration, and community needs remain disconnected, recovery leaders may struggle to identify bottlenecks, manage dependencies, control scope changes, coordinate approvals, escalate risks, and evaluate project performance.

A Common Operating Picture offers a useful approach for addressing this problem. In emergency management, the COP is associated with shared situational awareness, coordination, and decision making. FEMA's National Incident Management System emphasizes communications and information management as essential for developing shared situational awareness and a COP across command and coordination structures. Situational awareness theory explains that effective decision making in dynamic environments requires decision-makers to perceive relevant information, understand its meaning, and anticipate future conditions(Yigitcanlar, Tan, et al.,2026) . Although COP concepts are most often applied to emergency response, their logic is also relevant to disaster recovery project management because recovery requires shared visibility of scope, schedule, cost, funding, procurement, stakeholders, risks, issues, dependencies, and performance indicators.

This article uses a qualitative document-based conceptual analysis to develop a Recovery Project COP Framework for disaster recovery governance. It does not claim to be a systematic literature review, statistical study, interview-based study, or formal comparative case study. Instead, it synthesizes selected doctrine, recovery funding guidance, oversight reports, and peer-reviewed literature to identify recurring project governance gaps and translate them into a practical framework. The article contributes by reframing disaster recovery delays as project governance and project control problems, connecting disaster recovery systems with project management concepts, and proposing a COP-based framework for shared visibility, accountability, coordination, and performance improvement in post-disaster recovery environments(Wong, 2026).

Research Questions

RQ1: What project management gaps commonly affect disaster recovery project performance?

RQ2: How do fragmented information, stakeholder role ambiguity, funding complexity, and infrastructure dependencies contribute to disaster recovery delays?

RQ3: How can a Recovery Project Common Operating Picture strengthen project visibility, stakeholder coordination, accountability, and performance in disaster recovery?

LITERATURE REVIEW

Disaster Recovery as a Project Management Environment

Disaster recovery is often discussed through emergency management, public policy, funding, resilience, and community rebuilding perspectives. However, recovery also functions as a project management environment because recovery activities are delivered through multiple projects with defined objectives, scopes of work, schedules, budgets, stakeholders, procurement requirements, risks, documentation standards, and performance expectations. FEMA's National Disaster Recovery Framework describes recovery as a coordinated process involving government, private-sector, nonprofit, and community partners across functional areas such as infrastructure systems, housing, economic recovery, health and social services, natural and cultural resources, and community planning(Rashidfarokhi, Anahita, et al.,2026)

Project management principles are directly relevant to this recovery environment. The PMBOK Guide identifies performance domains such as stakeholders, planning, project work, delivery, measurement, uncertainty, and system thinking (Project Management Institute. These domains matter because disaster recovery projects are implemented under damaged conditions, public pressure, incomplete information, changing priorities, funding rules, procurement requirements, and community needs(Wessels, 2026). A road repair project may affect debris removal, utility access, emergency service routes, school reopening, and business recovery. A healthcare facility restoration project may depend on power, water, telecommunications, transportation access, staff availability, and supply chains. Recovery managers must therefore monitor not only individual project progress but also the relationships among projects and services.

Recovery Funding, Oversight, and Administrative Governance

Disaster recovery is also shaped by funding and administrative systems. In the United States, FEMA's Public Assistance Program supports eligible emergency work and permanent work, including repair, replacement, or restoration of disaster damaged public facilities and infrastructure (Mensah-Larkai, Joshua Samuel, et al.,2025). Public Assistance projects require damage documentation, eligible scope development, cost estimation, procurement compliance, environmental and historic preservation review, grants management, reimbursement, and closeout. These requirements show that recovery is not only a rebuilding activity. It is also a project governance process involving eligibility decisions, funding controls, documentation, compliance, and accountability.

Oversight literature shows that recovery project delivery can be affected by administrative and management challenges. GAO has examined FEMA Public Assistance issues related to grant operations, workforce capacity, information sharing, technology controls, and redesigned program delivery (U.S. Government Accountability Office). From a project management perspective, weak information systems, limited administrative capacity, unclear documentation, and delayed grant management can affect project approval, schedule performance, reimbursement, and closeout.

Australia provides another useful recovery governance context. The Disaster Recovery Funding Arrangements provide a Commonwealth and state framework for disaster relief and recovery funding, including eligible recovery activities, essential public asset restoration, and infrastructure betterment. The Australian National Audit Office reviewed the administration of these arrangements and highlighted the importance of clear guidance, administrative alignment, oversight, and accountability in disaster recovery funding. These examples show that recovery project performance depends on more than available funding. Funding systems create project requirements related to eligibility, documentation, approvals, procurement, claims, reimbursement, assurance, and closeout(Banogon, Meljun R., et al.,2025).

Stakeholder Coordination, Infrastructure Dependency, and COP Logic

Stakeholder coordination is another major challenge in disaster recovery project management. Recovery projects involve local governments, emergency management agencies, public works departments, funding agencies, contractors, engineers, procurement officials, finance officers, auditors, utility providers, elected officials, nonprofit organizations, businesses, and affected communities. (Motalebi, Maedeh, et al.,2025) identifies stakeholder engagement as a major project performance domain because project outcomes depend on understanding stakeholder needs, influence, expectations, and communication requirements. (Brady & Varkonyi-Sepp, 2026). emphasizes interagency communication during emergencies, while(Esmaeili, Reza, et al.,2025) highlights cognition, communication, coordination, and control as essential elements in crisis management.

Fragmented information makes stakeholder coordination more difficult. Recovery stakeholders often maintain separate databases, reports, and tracking systems for damaged assets, eligibility, grants, reimbursement, construction schedules, material availability, utility restoration, and unmet needs. When these information streams remain separate, recovery leaders may lack a shared understanding of project status, bottlenecks, risks, and dependencies. Emergency information systems literature supports integrated information environments that enable communication, coordination, and decision-making across operational levels(Malhouni, & Mabrouki, 2025).

Infrastructure dependency is another source of disaster recovery project complexity. Recovery projects rarely operate independently. Roads, bridges, utilities, hospitals, schools, public buildings, water systems, communications, fuel distribution, housing, and community services are connected. (Lubis, Muharman, et al.,2025) explain that critical infrastructure systems are linked through physical, cyber, geographic, and logical interdependencies. In recovery project management, these dependencies can create cascading delays. A road repair delay may affect debris removal, utility access, emergency service routes, school reopening, business access, and housing recovery. Power restoration may affect water systems, healthcare facilities, telecommunications, fuel stations, and public buildings.

The COP is traditionally associated with emergency response, but its logic is also relevant to disaster recovery project management. FEMA's National Incident Management System identifies communications and information management as essential for shared situational awareness and COP development across command and coordination structures . In disaster recovery, decision makers need situational awareness not only about immediate hazards but also about recovery projects, approvals, funding, procurement, dependencies, risks, community impacts, and performance.

Research Gap

The literature shows that disaster recovery requires coordination, funding, project delivery, infrastructure restoration, stakeholder engagement, and long-term performance monitoring. However, these areas are often discussed separately. Disaster recovery frameworks explain the need for coordination and community recovery, but they do not fully develop a project management model for controlling scope, schedule, cost, procurement, risk, dependencies, and performance across multiple recovery projects. Project management literature provides useful concepts for planning, stakeholder engagement, uncertainty, delivery, and measurement, but these concepts are not always adapted to the damaged, politically sensitive, and administratively complex conditions of disaster recovery. Similarly, COP literature is often associated with emergency response and shared situational awareness, but less attention is given to how COP can support long term recovery project governance.

This creates a practical and conceptual gap. In practice, recovery organizations may manage damaged assets, funding approvals, procurement actions, contractor progress, infrastructure dependencies, community impacts, and performance reports through separate systems. Conceptually, disaster recovery research has not sufficiently connected project management controls with COP-based shared visibility. As a result, recovery delays are often treated as funding, policy, or technical reconstruction problems, while project visibility, stakeholder responsibility, risk escalation, dependency monitoring, and performance tracking receive less direct attention.

The United States and Australia materials used in this article are treated as selected official document evidence, not as bounded comparative case studies. Their role is to support the identification of recurring recovery project governance issues across documented recovery systems, funding arrangements, and oversight reports. The purpose is not to compare countries causally, but to synthesize doctrine, official guidance, oversight evidence, and scholarly literature into a practical Recovery Project COP Framework.

METHODOLOGY

This study uses a qualitative document based conceptual analysis. It does not claim to be a systematic literature review, statistical study, interview-based study, simulation, or formal comparative case study. The purpose is to synthesize selected disaster recovery doctrine, project management guidance, public assistance and recovery funding documents, oversight reports, and peer-reviewed literature in order to develop a defensible conceptual framework for addressing project management gaps in disaster recovery.

The source base was selected through purposive relevance sampling. The selection was not intended to be exhaustive; rather, it was designed to include high relevance sources that directly informed the conceptual development of the framework. Sources were included when they addressed one or more of the article's core concepts: disaster recovery governance, project management, public assistance or recovery funding, stakeholder coordination, infrastructure interdependency, situational awareness, COP development, emergency information systems, project performance, or recovery oversight.

The United States and Australia documents were not treated as formal case studies. FEMA Public Assistance, the National Disaster Recovery Framework, GAO reports, NEMA Disaster Recovery Funding Arrangements, NEMA infrastructure betterment guidance, and ANAO audit materials were used as official document evidence because they show how recovery is structured through project eligibility, funding controls, documentation, administrative governance, oversight, accountability, and public asset restoration. Their role in the analysis was to support theme identification, not to produce country level comparison or causal inference.

The analytical procedure followed four steps. First, the selected documents and articles were reviewed to identify recurring references to scope uncertainty, stakeholder role ambiguity, schedule delay, funding complexity, procurement bottlenecks, infrastructure dependencies, risk escalation, community impact, reporting gaps, and recovery performance. Second, these recurring issues were grouped into thematic categories aligned with

the research questions. Third, themes were compared across doctrine, official funding guidance, oversight reports, and peer-reviewed literature to identify common project governance patterns. Fourth, the resulting themes were translated into framework components that could support recovery project visibility, coordination, accountability, and future empirical testing.

Trustworthiness was supported through triangulation across source types: official doctrine, public assistance and recovery funding guidance, oversight reports, project management guidance, and peer-reviewed scholarship. The framework was not developed from a single event, agency, or funding system. Ethical concerns were limited because the study used publicly available documents and published literature and did not involve human subjects, private records, field interviews, or personally identifiable data.

Table 1. Source Categories and Analytical Roles

Source category	Examples used	Analytical role
Disaster recovery doctrine and funding guidance	FEMA National Disaster Recovery Framework; FEMA Public Assistance Program and Policy Guide; NEMA Disaster Recovery Funding Arrangements; NEMA Infrastructure Betterment Program Guidelines	Defined recovery coordination structures, funding and eligibility requirements, project documentation, infrastructure restoration, closeout, and accountability needs.
Oversight and audit reports	GAO Public Assistance reports; ANAO audit of the Disaster Recovery Funding Arrangements	Identified administrative, capacity, guidance, information, oversight, and accountability challenges affecting recovery project delivery.
Project management and infrastructure literature	PMI PMBOK Guide; Rinaldi et al. on infrastructure interdependencies	Provided grounding for scope, schedule, cost, stakeholders, risk, delivery, measurement, uncertainty, systems thinking, and dependency monitoring.
COP, situational awareness, and emergency information systems literature	Endsley; FEMA NIMS; Comfort; Kapucu; Turoff et al.	Supported the logic of shared situational awareness, interagency coordination, information integration, decision support, and emergency information systems.
Qualitative methodology literature	Bowen; Braun and Clarke	Supported document based conceptual analysis and thematic synthesis of recurring patterns across documents and literature.

RESULTS / ANALYTICAL FINDINGS

Finding 1: Disaster recovery is a project governance environment, not only a policy or reconstruction process.

The document analysis shows that recovery work is organized through scopes of work, funding eligibility, cost estimation, procurement, contractor coordination, documentation, compliance, infrastructure restoration, and closeout. Recovery therefore requires project governance capabilities in addition to policy direction and financial assistance.

Finding 2: Recovery delays are shaped by visibility gaps across scope, schedule, cost, funding, procurement, and performance.

Across the source base, recurring recovery challenges involve unclear or changing scope, delayed approvals, funding uncertainty, procurement constraints, grant management requirements, and limited performance monitoring. These gaps reduce the ability of recovery leaders to identify bottlenecks early and coordinate corrective action.

Finding 3: Stakeholder role ambiguity weakens accountability and coordination.

Recovery projects involve local governments, emergency management agencies, funding agencies, public works departments, contractors, infrastructure operators, nonprofit organizations, and affected communities. When decision rights, reporting responsibilities, approval authorities, and escalation pathways are unclear, recovery work can stall across multiple organizations.

Finding 4: Infrastructure dependencies create cascading project delays.

Recovery projects are connected through roads, utilities, communications, healthcare facilities, schools, public buildings, housing, and community services. A delay in one project can block access, service restoration, contractor movement, or community recovery in another area. Dependency monitoring is therefore a core recovery project management requirement.

Finding 5: A Recovery Project COP requires governance, data discipline, and performance learning, not only a dashboard.

The analysis shows that a COP can support recovery only when it integrates reliable project information and is supported by data sharing procedures, reporting standards, ownership of updates, risk escalation rules, and lessons learned. Without these conditions, a dashboard can become another fragmented reporting tool rather than a recovery governance mechanism.

Analysis and Framework Development

The findings indicate that disaster recovery delays can be analyzed as a chain of connected project governance problems. Unclear scope affects schedule, cost, funding, procurement, contractor work, and community expectations. Fragmented stakeholder responsibilities weaken decision authority and escalation. Funding and procurement complexity can slow project approval and delivery. Infrastructure dependencies can create

cascading delay across roads, utilities, housing, healthcare, schools, and public services. Limited performance reporting prevents recovery leaders from learning which projects are delayed, why they are delayed, and how delays affect community outcomes.

The first analytical step was to translate the identified project management gaps into COP functions. Scope uncertainty requires scope definition. Role ambiguity requires stakeholder responsibility mapping. Schedule delay requires schedule and milestone tracking. Funding uncertainty requires cost and funding visibility. Procurement bottlenecks require procurement and contractor coordination. Cascading infrastructure delay requires dependency monitoring. Weak escalation requires risk and issue control. Administrative focus without community outcome visibility requires community impact tracking. Limited learning requires performance reporting.

The second analytical step was to organize these functions across the recovery project lifecycle. During pre-project planning, the COP should support damage assessment, initial project identification, scope definition, stakeholder mapping, funding pathway identification, dependency mapping, and risk screening. During project delivery, it should support milestone tracking, procurement monitoring, contractor coordination, risk escalation, issue resolution, dependency management, and performance reporting. During closeout and learning, it should support documentation completion, reimbursement tracking, audit readiness, service restoration verification, community impact review, and lessons learned.

The third analytical step was to identify enabling conditions. A Recovery Project COP requires reliable data ownership, standardized reporting fields, defined update responsibilities, cross agency information sharing procedures, privacy and cybersecurity controls, funding and procurement transparency, and leadership commitment. These conditions are necessary because recovery data are often distributed across agencies, contractors, funding authorities, infrastructure operators, and community organizations. The resulting framework is therefore both technical and institutional: it combines project tracking capabilities with governance requirements.

This article proposes a Recovery Project COP Framework for improving disaster recovery project governance. The framework is based on the argument that recovery delays are not caused only by disaster severity, technical damage, or limited funding. Delays also occur when recovery stakeholders lack shared visibility of project scope, schedule, cost, funding, procurement, contractor status, stakeholder responsibilities, infrastructure dependencies, risks, community impacts, and performance indicators. A Recovery Project COP can address these gaps by creating a shared project information environment that supports coordination, accountability, and decision making.

The Recovery Project COP is not proposed as a simple dashboard. It is proposed as a project governance and decision support mechanism. Its purpose is to help recovery leaders, project managers, emergency managers, funding agencies, contractors, infrastructure operators, nonprofit partners, and community stakeholders see the same recovery project environment. This shared view can help stakeholders understand what work is authorized, who is responsible, what funding is available, which approvals are pending, what risks are escalating, which dependencies are blocking progress, which communities are affected, and whether recovery projects are performing as expected.

Table 2. Recovery Project Common Operating Picture Framework

COP function	Gap addressed	Information tracked	Expected benefit
Scope definition	Unclear or changing scope	Approved work, pending changes, eligibility, documentation	Better scope control
Responsibility mapping	Role ambiguity	Project owner, funder, contractor, approval authority, escalation point	Clear accountability
Schedule tracking	Delayed milestones	Baseline schedule, progress, pending approvals, completion forecast	Earlier delay detection
Cost and funding visibility	Funding uncertainty	Estimated cost, approved funds, reimbursement status, gaps	Financial transparency
Procurement coordination	Contracting and supply bottlenecks	Contract status, mobilization, materials, vendor constraints	Reduced procurement delay
Dependency monitoring	Cascading infrastructure delay	Roads, utilities, public buildings, lifeline dependencies	Better prioritization
Risk and issue control	Weak escalation	Risk owner, issue status, mitigation action, decision required	Proactive control
Community impact tracking	Administrative focus only	Service restoration, access, housing, schools, healthcare	Outcome awareness
Performance reporting	Limited learning	Schedule, cost, risk, dependency, service restoration, lessons learned	Continuous improvement

The central proposition is that recovery project performance weakens when information remains fragmented across agencies, contractors, funding systems, infrastructure operators, and community partners. A Recovery Project COP can reduce these gaps by integrating project scope, stakeholder roles, schedule, cost, funding, procurement, dependencies, risks, community impacts, and performance indicators into one shared governance and decision-support environment.

Figure 1 presents an integrated view of the Recovery Project COP Framework across the project lifecycle, combining pre-project planning, project delivery, and closeout and learning functions into one unified visual model.

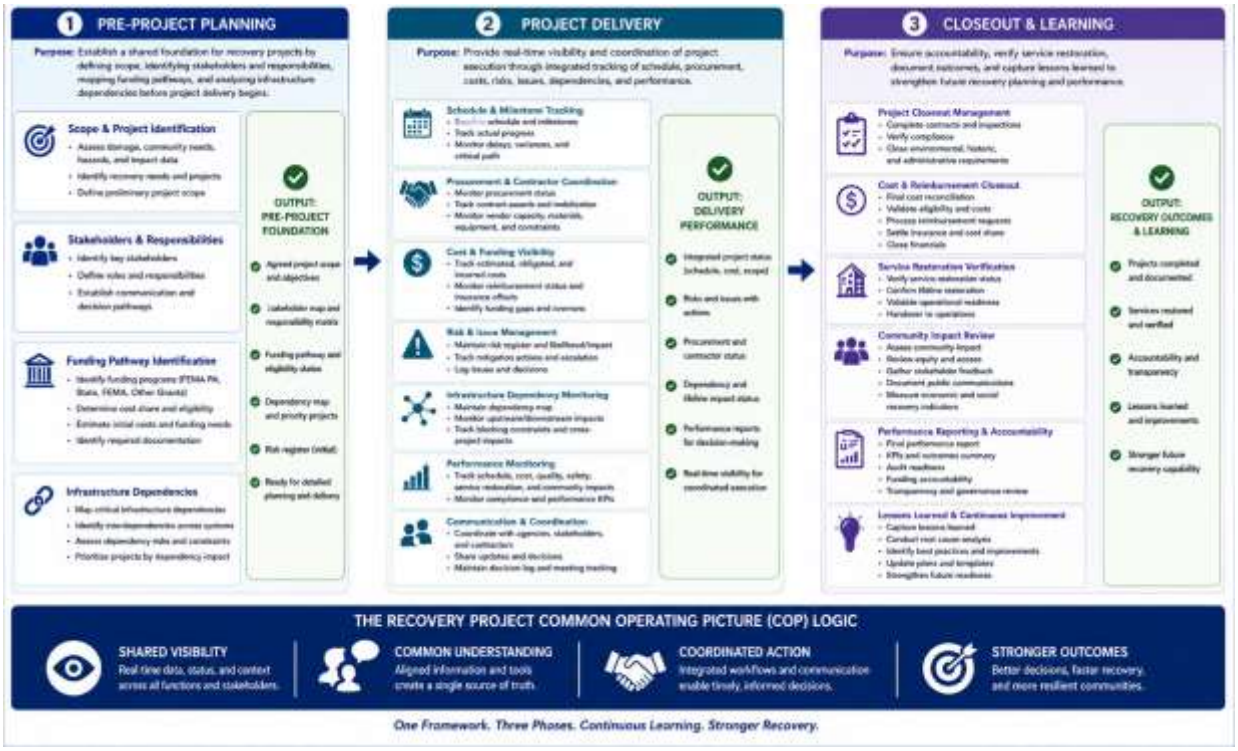

Figure 1: Integrated Recovery Project Common Operating Picture Framework Across the Project Lifecycle

Note. The figure synthesizes the recovery project lifecycle into one framework showing pre-project planning, project delivery, and closeout and learning, along with the shared visibility, common understanding, coordinated action, and stronger recovery outcomes expected from a recovery project Common Operating Picture.

DISCUSSION

The findings and analysis show that disaster recovery delays are not only funding, policy, or reconstruction problems. They are also project governance failures that can occur when scope, schedule, cost, funding, procurement, responsibilities, dependencies, risk, community impact, and performance information are managed through separate systems. This matters because disaster recovery work involves multiple projects, agencies, funding streams, contractors, infrastructure systems, approvals, risks, and community outcomes. Without shared visibility, recovery leaders may lack the ability to identify bottlenecks, assign responsibility, escalate risks, and monitor performance.

The first research question asked what project management gaps commonly affect disaster recovery project performance. The findings identify several recurring gaps: unclear scope, weak schedule visibility, cost and funding uncertainty, procurement bottlenecks, fragmented stakeholder coordination, unmanaged infrastructure dependencies, poor risk escalation, limited community impact tracking, and insufficient performance reporting. These gaps correspond closely with project management concerns related to planning, delivery, stakeholders, measurement, uncertainty, and system thinking (PMI, 2021). In disaster recovery, these concerns become more difficult because projects are launched under damaged, uncertain, politically sensitive, and administratively complex conditions.

The second research question asked how fragmented information, stakeholder role ambiguity, funding complexity, and infrastructure dependencies contribute to disaster recovery delays. These factors are connected. Fragmented information prevents recovery leaders from seeing the full project environment. Stakeholder role ambiguity creates confusion over who owns a project, who approves changes, who manages funding, who coordinates contractors, and who communicates with affected communities. Funding complexity can delay work when eligibility, documentation, procurement compliance, reimbursement, or closeout requirements are unclear. Infrastructure dependencies can create cascading delays when one delayed project blocks other projects or services. These issues are especially important in recovery systems where project delivery is tied to documentation, eligibility, funding controls, administrative oversight, and accountability.

The third research question asked how a Recovery Project COP can strengthen project visibility, stakeholder coordination, accountability, and performance in disaster recovery. The framework shows that a COP can support recovery governance by integrating project information that is often scattered across different organizations. It can bring together information on scope, schedule, cost, funding, procurement, responsibilities, risks, dependencies, community impacts, and performance indicators. This shared view can help stakeholders understand not only what is delayed, but why it is delayed, who is responsible, what decision is needed, and how the delay affects wider recovery outcomes.

The framework also extends the traditional role of the COP. In response operations, the COP supports shared situational awareness and command coordination. In disaster recovery, the same logic applies, but the information environment changes. Instead of focusing only on incident status, hazards, resources, and immediate response actions, recovery leaders need shared awareness of projects, approvals, funding, procurement,

dependencies, risks, service restoration, and performance. This helps shift recovery performance measurement from simple activity completion to meaningful recovery outcomes.

Overall, the discussion shows that disaster recovery should be understood as both a governance process and a project management environment. The value of the Recovery Project COP Framework lies in its ability to connect these two perspectives. It translates disaster recovery coordination into practical project visibility, responsibility mapping, risk escalation, dependency monitoring, and performance reporting. By doing so, it offers a practical foundation for improving recovery project coordination, accountability, and performance in complex post-disaster environments.

Practical and Policy Implications

The proposed Recovery Project COP Framework has practical value for emergency managers, project managers, public works officials, funding agencies, contractors, infrastructure operators, and community recovery partners. In practice, recovery delays often occur because project information is distributed across separate systems and organizations. A Recovery Project COP can bring scope, schedule, cost, funding, procurement, contractor status, infrastructure dependencies, risks, issues, community impacts, and performance indicators into one shared project environment. This can improve coordination by helping stakeholders see what work is authorized, who is responsible, which approvals are pending, what risks require escalation, and how delays affect wider recovery outcomes.

For project managers and recovery leaders, the framework can support stronger project control by identifying scope changes, delayed milestones, procurement bottlenecks, funding gaps, contractor constraints, and dependency conflicts before they become major recovery failures. It can also support more transparent reporting by connecting project progress with service restoration and community impact. Recovery performance should not be measured only by administrative completion. It should also consider whether roads, utilities, healthcare access, schools, housing, public facilities, and other essential services are being restored for affected communities.

For policymakers and funding agencies, the framework highlights the need to treat disaster recovery as a project governance problem as well as a funding and reconstruction problem. Recovery policies should support shared reporting standards, interoperable information systems, clear responsibility mapping, risk escalation procedures, and performance monitoring across agencies and partners. Agencies can also use the framework before disasters to develop project tracking templates, stakeholder responsibility maps, data sharing procedures, procurement readiness tools, and recovery performance indicators.

Implementation Challenges

Although a Recovery Project COP can improve project visibility and coordination, implementation may be difficult in real recovery environments. One major challenge is fragmented data ownership. Recovery information is often held by different agencies, contractors, infrastructure operators, funding authorities, and community organizations. These stakeholders may use different reporting formats, information systems, approval processes, and data standards. Without agreed procedures for data sharing, the COP may become incomplete or inconsistent.

A second challenge is organizational capacity. Local governments and recovery agencies may have limited staff, technical resources, and time during post disaster operations. Maintaining a project focused COP requires trained personnel, reliable data entry, regular updates, clear responsibility for information quality, and leadership commitment. If the COP is not updated consistently, it may lose credibility and become another reporting burden rather than a useful decision support tool.

A third challenge involves governance, privacy, and accountability. Recovery project information may include financial data, contractor information, infrastructure vulnerabilities, community impact data, and politically sensitive performance indicators. Agencies may hesitate to share incomplete information or expose delays, funding gaps, or procurement problems. Implementation therefore requires clear rules for data access, cybersecurity, information validation, reporting authority, and escalation procedures.

Limitations and Future Research

This article is conceptual and document-based. It does not test the proposed Recovery Project COP Framework through field data, interviews, surveys, simulations, case studies, or pilot implementation. The framework is developed from selected disaster recovery doctrine, project management principles, recovery funding systems, oversight reports, infrastructure interdependency research, situational awareness theory, and emergency information systems literature. As a result, the article provides a structured theoretical and practical foundation, but it does not claim empirical validation.

The study uses selected documents and literature rather than an exhaustive systematic review. The source base was selected for conceptual relevance to disaster recovery project governance, COP development, public assistance and recovery funding systems, infrastructure dependency, and project performance. Future studies should expand the source base, compare additional recovery governance contexts, and test whether the framework improves decision making and project performance in practice.

The framework is also shaped mainly by U.S. and Australian recovery governance documents. Although these contexts provide useful official evidence of project-based disaster recovery, recovery systems differ across countries, hazard types, institutional structures, funding mechanisms, and local capacities. The framework may therefore require adjustment before it is applied in other national or regional contexts.

Future research should test and refine the framework through case studies of major disaster recovery programs, interviews with emergency managers and project managers, emergency management exercises, and pilot applications in recovery coordination settings. Further research could examine which data elements are most important for a Recovery Project COP, how agencies can overcome information sharing barriers, and whether COP-based recovery governance improves schedule performance, funding transparency, risk escalation, service restoration, and community recovery outcomes.

CONCLUSION

Disaster recovery is not only a process of rebuilding damaged assets and restoring public services. It is also a complex project management and governance environment involving multiple stakeholders, uncertain scopes of work, funding requirements, procurement controls, infrastructure dependencies, risk escalation, and performance accountability. This article argued that many recovery delays are shaped not only by disaster

severity or limited resources, but also by weak project visibility, fragmented coordination, unclear responsibilities, funding complexity, procurement delays, unmanaged dependencies, and insufficient performance monitoring. To address these gaps, the article proposed a Recovery Project COP Framework. The framework positions the COP as a recovery governance mechanism that can integrate scope definition, stakeholder responsibility mapping, schedule tracking, cost and funding visibility, procurement coordination, infrastructure dependency monitoring, risk and issue control, community impact tracking, and performance reporting. By creating a shared view of the recovery project environment, the framework can support better coordination, accountability, risk escalation, decision making, and project performance. The article contributes to disaster recovery and project management scholarship by reframing recovery delays as project governance and project control problems. It also provides a practical foundation for agencies and recovery partners seeking to improve project visibility and coordination after disasters. Future research should test the framework through case studies, practitioner interviews, exercises, and pilot applications to examine its usefulness in real recovery environments.

REFERENCES

1) Kumah, Victoria Maame Afriyie, et al. "Decoding multilevel psychosocial hazards affecting construction professionals: a systematic review." Smart and Sustainable Built Environment (2026): 1-32.doi: https://doi.org/10.1108/SASBE-07-2025-0370
2) Alkindi, S. (2026). Decision-making strategies for project management and financial planning: UAE's public sector construction projects (Doctoral dissertation, Anglia Ruskin Research Online (ARRO)).doi: https://doi.org/10.25411/aru.31821199
3) Van Le, H., & Nguyen, Q. N. K. (2026). Integrating Shoreline Stabilisation, Incentive Alignment, and Co-Management for Mangrove Restoration in Ca Mau, Vietnam: A Practice and Policy Analysis. Case Studies in the Environment, 10(1), 2882467. doi: https://doi.org/10.1525/cse.2026.2882467
4) Afadzinu, S. K. (2026). Appointing the auditor-general: political control and audit transparency in Ghana. Journal of Public Budgeting, Accounting & Financial Management, 38(2), 299-317.doi: https://doi.org/10.1108/JPBAFM-03-2025-0075
5) Lagos, N. (2026). How have the transformations of Supreme Audit Institutions shaped contemporary public auditing? A professional, process, and stakeholder perspective. Financial Accountability & Management.doi: https://doi.org/10.1111/faam.70030
6) Yigitcanlar, Tan, et al. "Governing Urban AI from the Frontline: A Stage-Gate Framework for Municipal Algorithmic Decision-Making." Smart Cities 9.5 (2026): 81.doi: https://doi.org/10.3390/smartcities9050081
7) Wong, B. (2026). Operationalising AI Legal Governance: A Regulatory Compliance Framework for AI Systems. Journal of International Commercial Law and Technology, 7, 1374-1382.doi: 10.61336/Jiclt/26-01-127
8) Rashidfarokhi, Anahita, et al. "Enhancing social resilience: the role of social infrastructure in crisis management within the built environment." Climate Risk Management (2026): 100796.doi: https://doi.org/10.1016/j.crm.2026.100796
9) Wessels, W. (2026). An assessment of the current physiological needs satisfaction potentially influencing tourism growth in the nine provinces of South Africa. Community Development, 1-21.doi: https://doi.org/10.1080/15575330.2026.2622009
10) Mensah-Larkai, Joshua Samuel, et al. "The Most Vulnerable to Housing Rebuilding after Hurricane Maria: Evaluating FEMA's Individuals and Households Program in Puerto Rico." Natural Hazards Review 26.2 (2025): 04025014. doi: https://doi.org/10.1061/NHREFO.NHENG-1939
11) Banogon, Meljun R., et al. "Bridging policy and practice: A qualitative study on PhilHealth claims and financial processes in public hospitals." Philippine Journal of Health Research and Development 29.3 (2025): 79-90.doi: 10.4103/PJHRD.PJHRD_6_25
12) Motalebi, Maedeh, et al. "Sustainability and stakeholder engagement in building information modelling-enabled construction: a review of critical success factors in design and planning phases." Sustainability 17.3 (2025): 1086.doi: https://doi.org/10.3390/su17031086
13) Brady, R., & Varkonyi-Sepp, J. (2026). A framework for consultancy in health psychology. In The Palgrave handbook of consultancy in health psychology (pp. 37-55). Cham: Springer Nature Switzerland.doi: https://doi.org/10.1007/978-3-031-94529-8_3
14) Esmaeili, Reza, et al. "Unveiling the dynamics of team cognition in emergency response teams." Frontiers in Psychology 16 (2025): 1534224.doi: https://doi.org/10.3389/fpsyg.2025.1534224
15) Malhouni, Y., & Mabrouki, C. (2025). Whole-of-government approach in disaster management: collaborative case study on the 2023 Morocco earthquake response. Journal of Humanitarian Logistics and Supply Chain Management, 15(4), 414-444. doi: https://doi.org/10.1108/JHLSCM-10-2024-0152
16) Lubis, Muharman, et al. "Guarding our vital systems: A metric for critical infrastructure cyber resilience." Sensors 25.15 (2025): 4545.doi: https://doi.org/10.3390/s25154545