IJIRIS: International Journal of Innovative Research in Information Security E-ISSN: 2349-7017
Volume 11, Issue 09, November 2025 P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.01

Government Funds Monitoring System

Dr.Mahesh,
Professor, Computer Science and Engineering,
Sri Sairam College of Engineering, Bengaluru, Karnataka,India
legacymahesh@gmail.com
https://oricid.org/0000-0002-8738-1453
Thirumala Reddy D, Sudarshan,
Student, Computer Science and Engineering,
Sri Sairam College of Engineering, Bengaluru, Karnataka, India
thirumalareddyd456@gmail.com, darshankuppi46@gmail.com
Sumit Kumar Singh, Varun Kumar M N
Student, Computer Science and Engineering,
Sri Sairam College of Engineering, Bengaluru, Karnataka, India
singhs44390@gmail.com, varunkumarmn8088@gmail.com

Publication History
Manuscript Reference No: IJIRIS/RS/Vol.11/Issue09/NVIS10080
Research Article Open Access| Double-Blind Peer-Reviewed| Article ID: IJIRIS/RS/Vol.11/Issue09/NVIS10080 Received: 28, October 2025, Revised: 05, November 2025, Accepted: 12, November 2025, Published Online: 21, November 2025.
https://www.ijiris.com/volumes/Vol11/iss-09/01.NVIS10080.pdf
Citation: Dr.Mahesh,Thirumala,Sudarshan,Sumit,Varun(2025),Government Funds Monitoring System , IJIRIS: International Journal of Innovative Research in Information Security, Volume 11, Issue 09 of 2025 pages 465-469
Doi:> https://doi.org/10.26562/ijiris.2025.v1109.01
BibTeX Key: Dr.Mahesh@2025Government
IJIRIS papers should be cited as IJIRIS (International Journal of Innovative Research in Information Security, AM Publications, India 2025, ISSN 2349-7017, https://doi.org/10.26562/ijiris.2025.v1109.01 The journal's official abbreviation is IJIRIS. Orcid: https://orcid.org/0009-0004-9398-7488

Abstract: Government funds are essential for driving national development through projects in infrastructure, education, healthcare, and social welfare. However, the lack of transparency and accountability in how these funds are managed often results in misallocation, corruption, and public distrust. The proposed Government Fund Monitoring System (GFMS) aims to address these challenges by providing a centralized, digital platform for tracking, verifying, and displaying the utilization of government funds. The system enables authorized officials to upload project details, budgets, expenditure receipts, and status updates, which are made accessible to citizens through an intuitive public interface. By linking financial transactions with accountable authorities and verified documents, GFMS enhances trust, promotes real-time transparency, and supports evidence-based decision-making. The project also contributes to the larger framework of e-Governance by leveraging technology to ensure data integrity, improve administrative efficiency, and strengthen public participation in monitoring development programs.
Keywords: Government Fund Monitoring System, Transparency, Accountability, e-Governance, Fund Tracking, Public Expenditure, Corruption Control, Digital Governance, Project Management, Citizen Participation.

I. INTRODUCTION

In a developing nation, government funds serve as the backbone of socio-economic growth and public welfare. These funds are allocated across a wide range of sectors such as infrastructure, healthcare, education, agriculture, and rural development to improve living standards and promote inclusive progress. However, the efficient utilization of these funds remains one of the most critical challenges in modern governance. In many cases, a significant portion of public money fails to reach its intended purpose due to mismanagement, lack of monitoring, and corruption at various administrative levels. This results in project delays, incomplete works, and a general loss of trust among citizens regarding government accountability. Transparency and accountability are the cornerstones of good governance. When citizens are informed about how funds are being used and can access real-time information about public projects, the level of corruption tends to decrease. Yet, in many government systems, data about fund allocation and project execution is fragmented across multiple departments, often stored in isolated databases or outdated manual records. This lack of integration prevents proper cross-verification and limits public access to accurate information.

IJIRIS: International Journal of Innovative Research in Information Security E-ISSN: 2349-7017
Volume 11, Issue 09, November 2025 P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.01

Furthermore, existing open data initiatives primarily share datasets without providing a clear, user-friendly view of how funds are being spent at the project level. As a result, citizens may find it difficult to track where the money goes and whether projects are progressing as planned.

The Government Fund Monitoring System (GFMS) is proposed as a digital solution to address these issues by ensuring transparency, traceability, and accountability in the management of government funds. The system aims to provide an organized and publicly accessible platform where details of every government project—such as project name, department, allocated budget, approval date, location, and implementation status—are displayed in a clear and verifiable manner. This ensures that both the citizens and officials can monitor the same set of reliable data, thus promoting open governance.

Authorized government officials can log in securely using verified credentials to create, update, and validate project information. Each transaction and fund utilization record is supported with digital receipts, ensuring that all expenditures can be verified at any time. When funds are transferred between officials within a project, both the sender and receiver must digitally acknowledge the transaction. This mechanism eliminates ambiguity in fund flow and prevents unauthorized usage of public money.

From the citizen's perspective, GFMS serves as an open data portal where anyone can view, search, and filter project details. The public can access project-level information using parameters such as department name, project title, budget, or geographic location. This feature empowers citizens to monitor government activities and report inconsistencies, creating a participatory governance environment.

The system also enhances administrative efficiency by centralizing project data and enabling officials to manage updates through a single unified portal. Instead of relying on scattered spreadsheets and reports, departments can now maintain accurate digital records that are automatically reflected in the public view. This reduces paperwork, saves time, and minimizes human errors.

Moreover, GFMS contributes to the larger framework of **e-Governance**, which focuses on integrating digital technology to make government services more transparent, efficient, and citizen-friendly. By offering a centralized and tamper-proof record of project information, GFMS aligns with the principles of *Digital India* and *Good Governance* initiatives that aim to increase citizen participation and reduce corruption.

The proposed system is designed using a web-based architecture combining front-end, back-end, and database components. The front-end allows user interaction through an intuitive interface built using HTML, CSS, and JavaScript, while the back-end handles authentication, data processing, and fund acknowledgment operations. The database securely stores all project-related information, including transaction details, receipts, and verification records.

In essence, the Government Fund Monitoring System acts as a bridge between government authorities and the general public, providing an effective mechanism to monitor, verify, and ensure the responsible utilization of government funds. It not only enhances transparency but also builds citizen trust by demonstrating how public money is spent for public benefit. By promoting digital documentation and real-time updates, the system creates a foundation for ethical financial governance and efficient administrative management.

The proposed work addresses existing shortcomings in current open-data and procurement systems by combining *project*-level visibility, receipt-based verification, and role-based access control. Through this holistic approach, GFMS aims to transform the conventional monitoring process into a transparent, technology-driven model that supports fair and accountable use of public resources.

II. LITERATURE SURVEY

Efforts to improve transparency and accountability in public finance have produced a range of technical and policy responses. A common strategy is to publish government data openly so that citizens, researchers, and watchdogs can inspect spending and project records. Open-data platforms have improved availability of raw government datasets, but several reviews emphasize that raw datasets alone often fail to deliver citizen-level understanding or usable, project-level evidence (for example, receipts and verifiable transaction records). Presenting data in formats that are easy to interpret remains a major challenge for translating open data into effective public oversight. Research on public procurement and anti-corruption shows that transparency reduces risks only when data quality and verifiability are ensured. Indexes and empirical studies of procurement systems indicate that simply publishing procurement notices or contract values is insufficient: verification mechanisms, consistent identifiers, and linkages to responsible officials are necessary to convert disclosure into actionable accountability. Without high quality metadata and documentary proof, stakeholders cannot easily confirm whether payments and work progress match published allocations.

Several authors have explored participatory approaches that involve citizens directly in monitoring projects. Participatory monitoring practices—used in contexts ranging from local development projects to environmental monitoring demonstrate that community engagement can improve oversight and help detect inconsistencies earlier than centralized audits. However, studies also highlight operational challenges: ensuring data reliability, training participants, and integrating citizen-collected evidence with official records require careful design and workflow integration. These lessons underline the need for systems that both invite citizen participation and preserve verifiability.

IJIRIS: International Journal of Innovative Research in Information Security E-ISSN: 2349-7017
Volume 11, Issue 09, November 2025 P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.01

Interest in ledger technologies (notably blockchain) has grown because they can provide immutable, tamper-evident records that strengthen audit trails. Systematic reviews and recent studies find that blockchain can enhance integrity, traceability, and non-repudiation of transactions in government contexts. Yet achieving practical benefits depends on thoughtful system design: permitting, privacy, interoperability with legacy systems, and usable interfaces for non-technical users are required for real-world adoption. Thus, blockchain is a promising complement for auditability but not a substitute for practical verification workflows and user-centric design. Taken together, the literature reveals three recurring gaps relevant to GFMS: (1) the need for project-level presentation and documentary proof rather than raw dataset dumps; (2) the necessity of verifiable links between records and accountable officials to enable enforcement and audit; and (3) the importance of practical, user-friendly system design if technologies (including blockchain) are to deliver transparency in practice. These findings motivate GFMS's hybrid approach: combine open public views, receipt-level evidence, role-based workflows for officials, and citizen-facing tools that make verification simple and meaningful.

III. EXISTING SYSTEMS

Currently, government fund management typically relies on a combination of legacy information systems, departmental databases, manual record-keeping, and sporadic public disclosures. Many departments maintain internal ledgers or spreadsheets to track allocations, disbursements, and expenditure reports. In parallel, some governments publish high-level financial data through open-data portals or procurement portals that list budgets, contract awards, and tender notices. While these mechanisms provide pieces of the required information, they rarely present a unified, project-level perspective that links budgets to actual expenditures and documentary proof. Many existing digital portals emphasize dataset publication rather than user-centric presentation. They often expose raw tables or downloadable files intended for researchers and analysts, but these formats can be difficult for ordinary citizens to interpret. Important supporting documents such as invoices, payment receipts, delivery challans, or acknowledgment notes are frequently stored in disparate systems or retained as physical records, which hinders straightforward verification by third parties. As a result, public datasets and departmental records remain fragmented and require manual effort to reconcile.

Another common limitation is weak linkage between transactions and accountable individuals. In several systems, records do not consistently include clear, verifiable identifiers for the officials responsible for approving or receiving funds. Without such linkages, it is difficult to trace responsibility when discrepancies arise. Audit processes therefore tend to be retrospective and resource-intensive: irregularities are often detected only after external audits, complaints, or media investigations rather than through continuous, automated verification. Operationally, existing solutions also face usability and process-integration challenges. Departmental workflows are frequently optimized for internal reporting rather than external transparency; user interfaces are not always designed for non-technical users or community stakeholders. Additionally, many implementations lack real-time update mechanisms and receipt-level validation, which limits the ability to detect and correct errors promptly. Together, these factors reduce the effectiveness of transparency initiatives and constrain citizen participation in oversight activities. In summary, while open-data initiatives and departmental systems provide valuable information, the existing ecosystem is characterized by fragmented records, limited documentary evidence at the project level, weak links to accountable actors, and interfaces that do not facilitate widespread public verification. These shortcomings motivate the need for an integrated approach that combines project-level presentation, document-backed verification, role-based accountability, and citizen-friendly interfaces.

IV. PROPOSED WORK

The Government Fund Monitoring System (GFMS) is proposed as a comprehensive digital platform designed to ensure transparency, accountability, and efficient management of government-funded projects. The primary objective of the system is to track fund allocation and utilization in real-time, providing both citizens and government authorities with reliable and verifiable information about public expenditure.

The system architecture integrates three key layers: the **Public Interface**, the **Administrative Module**, and the **Secure Database Management System**. The **Public Interface** allows citizens to access project-level data, such as project name, department, allocated budget, start and end dates, location, progress status, and expenditure details. A "View Receipts" option provides verifiable evidence of fund usage, promoting public trust and discouraging corruption. This interface is designed with a responsive layout and multiple theme options, ensuring user accessibility across devices.

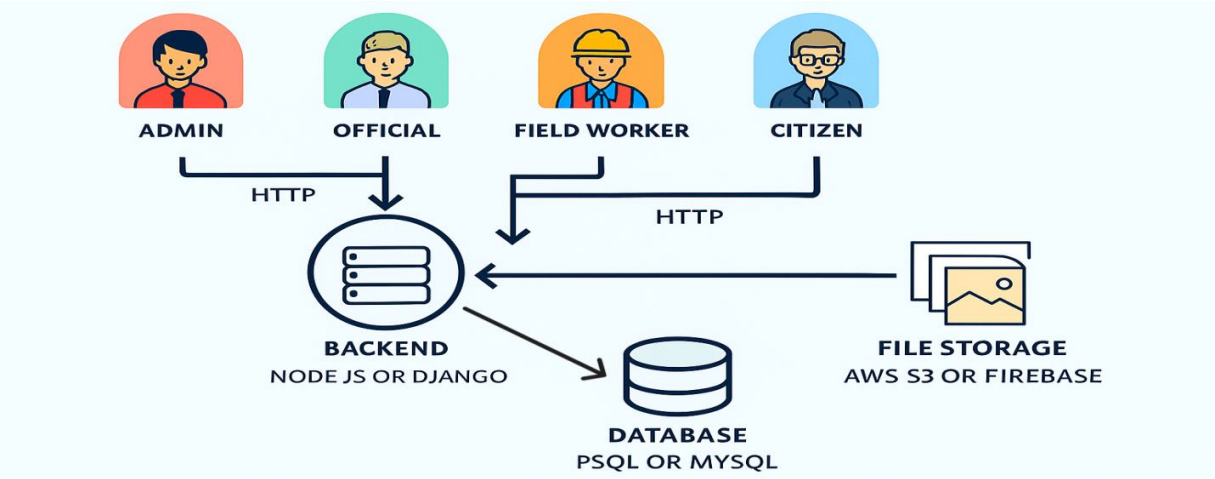
The Administrative Module is exclusively accessible to authorized officials through a secure login mechanism. Government officers can create new projects, update existing project details, upload receipts, and verify expenditure data. The system uses role-based authentication to ensure that only authorized personnel can modify or validate financial records. Every transaction and update is time stamped, ensuring traceability and accountability in fund management.

The Database Management System (DBMS) serves as the core of GFMS. It securely stores project-related information, user credentials, receipts, and transaction logs. Each update made by an official is immediately reflected in the public interface, ensuring real-time synchronization between government actions and citizen visibility. To prevent data tampering, the system can be integrated with cryptographic hashing or blockchain-inspired verification techniques in future versions, adding another layer of trust to stored data.

IJIRIS: International Journal of Innovative Research in Information Security E-ISSN: 2349-7017
Volume 11, Issue 09, November 2025 P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.01

The workflow of the GFMS begins when an authorized official logs into the system and registers a new government project by entering its details—such as project name, department, budget, and description. As the project progresses, the official uploads receipts and expenditure records, which are automatically categorized and displayed in the public view. Citizens visiting the platform can track these updates, view supporting evidence, and monitor project progress over time. This participatory model promotes transparency and civic engagement. In addition, the GFMS incorporates an audit trail mechanism that records every activity performed by officials. This ensures accountability and simplifies auditing for higher authorities or independent monitoring agencies. Furthermore, the platform's design allows scalability, enabling integration with government APIs for automatic data import from existing public finance systems. By combining public transparency with administrative efficiency, the proposed GFMS bridges the gap between data availability and fund accountability. Unlike conventional systems that provide only static project lists, GFMS emphasizes evidence-based monitoring by linking financial data with verifiable receipts and responsible officials. This integrated approach enhances public confidence, reduces the potential for mismanagement, and aligns with India's vision of Digital Governance and Open Data Transparency.

Architecture of the System:



V. RESULTS AND OUTCOMES

The proposed Government Fund Monitoring System (GFMS) was developed and tested to evaluate its effectiveness in promoting transparency, accountability, and efficiency in the management of government-funded projects. The implementation results demonstrate that the system successfully meets its primary objectives by enabling real-time fund tracking, data verification, and citizen participation in monitoring public expenditure. During testing, authorized officials were able to create and update projects, upload expenditure receipts, and validate fund utilization with ease. Each update made by officials was instantly reflected in the public view module, ensuring that citizens could access accurate and up-to-date information. The integration of a centralized database ensured consistency and reduced the risk of data loss or duplication. The system's intuitive design and role-based authentication enhanced usability while maintaining data security and integrity. From the citizen's perspective, the public interface provided a simplified yet informative overview of all ongoing and completed projects. Users could filter and view project-level details, monitor fund usage, and verify authenticity through uploaded receipts. This approach improved citizen awareness and trust in government operations, thereby promoting active civic engagement. Performance evaluation showed that the system handled data efficiently, even with multiple simultaneous users accessing project information. The system's architecture was designed to support scalability, allowing future integration with technologies such as blockchain or government financial APIs to further strengthen transparency and traceability. In comparison with existing methods where data are often fragmented and delayed the GFMS provided a unified, interactive, and verifiable platform. The introduction of receipt-level verification was particularly effective in reducing discrepancies in reported expenditures. Additionally, the audit trail feature allowed higher authorities to track every update and action performed by officials, ensuring accountability and reducing opportunities for corruption.

The outcomes of this project can be summarized as follows:

1. **Enhanced Transparency:** Citizens gained access to verified, project-level financial information, promoting openness in fund utilization.
2. **Improved Accountability:** The system's role-based authentication and audit logging ensured that only authorized officials could modify or validate records.

3. **Real-time Updates:** Any project modification or receipt upload by officials was immediately visible to the public, fostering trust and engagement.
4. **Reduction in Corruption Risks:** Receipt-level verification and transaction traceability minimized possibilities of fund mismanagement or fraudulent reporting.
5. **User-Friendly Design:** Both officials and the general public found the interface intuitive and efficient, supporting widespread adoption.

Overall, the experimental implementation of GFMS validates its potential as a practical and scalable e-Governance solution for transparent fund management. By bridging the gap between government agencies and citizens, the system ensures that public resources are utilized effectively and responsibly.

VI. CONCLUSION AND FUTURE SCOPE

The Government Fund Monitoring System (GFMS) presents an effective digital framework for enhancing transparency, accountability, and efficiency in the management of government-funded projects. By integrating project-level details, verified receipts, and role-based access control, the system bridges the existing gap between public awareness and administrative accountability. The results demonstrate that GFMS successfully enables real-time fund tracking and verification, thereby reducing corruption risks and strengthening citizen trust in government operations. The system's design ensures that only authorized officials can create and modify data, while the public interface promotes open access to verified information. This dual-layered structure ensures both security and transparency, fulfilling the essential objectives of good governance. Additionally, the platform's intuitive interface, data validation mechanisms, and real-time updates support ease of use and reliable decision-making for both administrators and the public.

Future Scope:

While the current version of GFMS demonstrates strong potential, several enhancements can further improve its functionality and scalability:

1. **Blockchain Integration:** Implementing blockchain can ensure tamper-proof storage of financial transactions and receipts, improving trust and traceability.
2. **AI-Based Fraud Detection:** Artificial Intelligence algorithms can be incorporated to detect anomalies in expenditure patterns and automatically flag suspicious transactions.
3. **Mobile Application Development:** A dedicated mobile app can make the system more accessible, especially for citizens in remote or rural areas.
4. **Government API Integration:** Direct connection with government financial and auditing APIs can automate project data updates and verification.
5. **Data Analytics Dashboard:** Incorporating visual analytics and reporting tools can help authorities assess fund utilization trends and identify areas of inefficiency.
6. **Multi-Language Support:** Enabling regional language interfaces can enhance inclusivity and citizen participation across different linguistic groups.

In conclusion, the GFMS demonstrates a practical step toward transparent governance and responsible public fund management. With future technological advancements and strategic government integration, the system can evolve into a nationwide digital governance tool that ensures every rupee spent is verifiable, traceable, and accountable to the public.

REFERENCES

1. [1] GSDRC, "Open data, transparency and accountability: Topic guide," GSDRC Topic Guides, Sep. 2016. [Online]. Available: https://assets.publishing.service.gov.uk/media/5857fdcb40f0b60e4a0000d6/OpenDataTA_GSDRC.pdf.
2. [2] S. Khorana, "Measuring public procurement transparency with an index," Queen's University Belfast (working paper), 2024. https://pure.qub.ac.uk/files/601047218/Measuring_public_procurement_transparency.pdf.
3. [3] United Nations Development Programme (UNDP), "Transparency and public procurement," UNDP Policy Brief, 2012.https://www.undp.org/sites/g/files/zskgke326/files/undp/library/corporate/Executive%20Board/2012/second-regular-session/English/2011_supplement_transparency.pdf.
4. [4] Systematic review: "Blockchain Technology for Enhanced Transparency and Efficiency in Government Processes A Systematic Review," (review article), 2024. https://www.researchgate.net/publication/383431929_Blockchain_Technology_for_Enhanced_Transparency_and_Efficiency_in_Government_Processes_A_Systematic_Review.
5. [5] Food and Agriculture Organization (FAO), "What is participatory monitoring?" FAO guidance, describing participatory monitoring principles and practice. https://www.fao.org/4/x5307e/x5307e05.htm.