



**IJIRCCCE**

e-ISSN: 2320-9801 | p-ISSN: 2320-9798



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 11, Issue 5, May 2023

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

**Impact Factor: 8.379**



9940 572 462



6381 907 438



ijircce@gmail.com



www.ijircce.com

# Smart Contract for Government Fund Distribution Using Blockchain

Sanjana Kumavat<sup>1</sup>, Srushti Kharmare<sup>2</sup>, Pratiksha Bhargude<sup>3</sup>, Samrudhi Bhise<sup>4</sup>

Department of Computer Engineering, NESGOI, Pune, India<sup>1,2,3,4</sup>

**ABSTRACT:** This abstract explores the transformative impact of smart contracts powered by blockchain technology in the farming industry. Smart contracts are self-executing digital agreements that operate on a decentralized blockchain network. They automate and enforce contract terms, eliminating the need for intermediaries and providing a secure, tamper-proof environment for transactions. This abstract highlights the benefits of smart contracts for farmers, including enhanced transparency, traceability, and accountability in their operations. By leveraging the immutability and decentralized nature of blockchain, smart contracts enable farmers to streamline processes, reduce costs, and optimize resource allocation. The automation of key farming processes, such as triggering automatic payments upon successful delivery, ensures timely compensation and minimizes disputes. Smart contracts also facilitate secure supply chain management by recording and validating every stage of the farming and distribution process. This transparency fosters collaboration, prevents fraud, and establishes trust among stakeholders. Overall, the integration of smart contracts into the farming industry holds immense potential for revolutionizing traditional practices, empowering farmers to thrive in an increasingly digital and interconnected world.

**KEYWORDS:** Fund distribution, Blockchain, Government, Admin, Hash Key, Record.

## I. INTRODUCTION

In the age of rapid technological advancement, traditional farming practices are embracing innovation to enhance efficiency and transparency. One such groundbreaking development is the utilization of smart contracts powered by blockchain technology. Smart contracts have emerged as a transformative tool, revolutionizing the way farmers engage in transactions, manage agreements, and mitigate risks. A smart contract is a self-executing digital agreement that operates on a decentralized blockchain network. It automates and enforces the terms of the contract, removing the need for intermediaries and providing a secure, tamper-proof environment for transactions. By leveraging the decentralized nature of blockchain, smart contracts enable farmers to streamline their operations, enhance trust, and optimize resource allocation.

For farmers, smart contracts offer a myriad of benefits. Firstly, they provide a transparent and immutable ledger of transactions, ensuring traceability and accountability. Farmers can confidently track the origin and movement of their produce, addressing concerns related to food safety and quality assurance. Additionally, by eliminating intermediaries and reducing administrative overhead, smart contracts enable farmers to achieve cost savings and gain a competitive edge in the market. Blockchain is touted for its capability to improve the trust and straightforwardness of information based exchanges among people and associations. The innovation offers guarantee when deliberately applied in the correct settings. Customarily, associations working their own, singular IT frameworks trying to team up must deal with difficulties including compromise of data, recognizing a solitary wellspring of truth, and encouraging responsibility.

Blockchain innovation tends to these difficulties by giving a specialized establishment that underpins the execution of shared business forms such that no single substance controls the whole framework. Government has a characteristic need to assemble, support, and ensure open trust in data and frameworks. In certain circumstances, blockchain may help improve this trust. The working of state governments involves numerous transactions towards various operations, that require to be applied throughout the state. This includes new projects, repair, and maintenance work, awarding contracts, paying off government employees, farmer schemes, and so on.

A serious hurdle that the highest government faces is the low-level corruption that's sometimes impossible to trace, which deprives the state of progress. Tracking it's a really difficult task because of the present system. Blockchain is touted for its capability to reinforce the trust and ease of information-based exchanges among people and associations. Blockchain innovation tends to those difficulties by giving a specialized establishment that underpins the execution of

shared business forms, such that no single substance controls the complete framework. Government incorporates a characteristic need to assemble, support, and ensure open trust in data and frameworks. In such kinds of situations, blockchain may help to boost this trust. A smart contract can be explained as a set of rules which is intended to digitally facilitate the transfer of digital currencies or assets between parties under certain conditions. Smart contract is secure computer program having self-verification, self-executing and tamper resistant properties. Smart contracts are used for exchange of value without need of third party. The smart contract helps you exchange money, property, shares or anything of value in a transparent way avoiding the services of middleman. The smart contract runs in EVM. Solidity programming language is used to implement smart contracts.

## II. RELATED WORK

1. X. Li, F. LvL [1] proposed a system using "A Blockchain-Based Solution for Enhancing Security and Privacy in Smart Factory" the authors propose an imaginative blockchain-based IOT engineering to help fabricate an increasingly secure and solid IOT framework. By examining the deficiencies of the current IOT design and the benefits of the Block-chain innovation. We decay and redesign the first IOT design to shape another, multi-focus, incompletely decentralized engineering
2. H. XuI [2] proposed a system using "Blockchains for Supply Chain Management: Architectural Elements and Challenges towards a Global Scale Deployment" The authors provides, through its technique, an itemized examination of the square chain fit in the inventory network industry. It characterizes the particular components of square chain that influence store network, for example, versatility, execution, agreement instrument, security contemplations, area proof and cost.
3. X. Zhang [3] proposed a system using "A Comparative Study on Fraud Detection in Financial Statement utilizing Data Mining Technique" the instructive factors are being use for executing affiliation rule digging for anticipation and three prescient mining strategies in particular Kimplies, Multi-Level Feed Forward Network, Genetic programming for discovery of budgetary misrepresentation. This exploration can forestall false monetary revealing and distinguish it if the executives of the association is fit for executing budget summary misrepresentation in spite of the nearness of against extortion condition.
4. Jiafu Wan[4] proposed a system using Discovery of Financial Statement Fraud utilizing Data Mining Technique and Performance the authors explain Data mining structure for evasion and uncovering of fiscal summary extortion right now. ordinary progression of information mining. These valuable factors are being utilized for actualizing affiliation rule digging for counteraction mining procedures.

## III. METHODOLOGY

Model and Material which are used is presented in this section. Table and model should be in prescribed format. Such a blockchain will surely reduce the ongoing corruption it will create a huge impact on the economic development of country. Governments need to cater to a huge number of responsibilities of a state. The working of state governments involves huge number of transactions towards various operations that need to be carried out throughout the state. This includes new projects, repair and maintenance works, awarding contracts, paying of government employees, farmer schemes and so on. A major obstacle that the top government face is the low level corruption that is sometimes not possible to track which deprives the state progress. Tracking it is a very complicated task due to the current system. But in proposed system we overcome this drawbacks by using block chain approach.

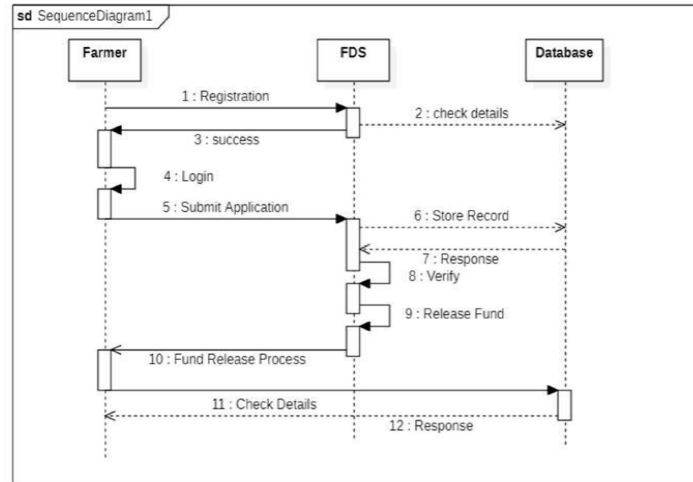


Fig 1. Sequence Diagram

We here make use of blockchain technology. The primary motivation is the disbursement of direct cash subsidy benefit under the DBT scheme to all the Indian farmers without any intermediate agencies and delays. Agriculture is not only the key sector of employment for majority workforce, it is also one of the least paid occupation. The farmers who participate in contract farming are often short-changed by middlemen with unfavorable contracts and difficult pricing model. Most farmers so far, have been denied with the true remuneration prices for their crops. Usually when a project is allocated funds, there is no knowledge as to how these funds are being used and a large part of it is never show in records due to corruption. To solve this problem, a system has been proposed using Blockchain to provide the transparency. A major hurdle that the top government faces is the low-level corruption that is sometimes impossible to track which deprives the state progress. Blockchain technology is an upcoming technology and said to be one of the most promising technologies which would revolutionize the world.

#### IV. WORKING MODULE

Customary social database the board arrangements (for example Prophet and SQL), sent universally across a huge number of uses, have one significant operational imperative – the administration of information is performed by a couple of substances who must be trusted. Disseminated Ledger Technologies (DLT, normally alluded to as blockchain), an option compositional way to deal with overseeing information, and evacuates the requirement for a confided in power to store and offer an unendingly developing arrangement of information. A basic attribute of a blockchain is trust. Blockchain have advanced marks and use keys to approve and check exchanges and emphatically recognize the initiator. When recorded to the chain, a blockchain record can't be erased or controlled. New squares may just be attached to the chain, guaranteeing information trustworthiness and making an unquestionable review trail where the mutual record gives perceivability to all members, at the same time. Moreover, information components can be independently permissioned, so members see just fitting exchanges. Applications oversight by a solitary substance would ordinarily not advantage from utilizing blockchain innovation.

#### V. CONCLUSION

In conclusion, smart contracts on the blockchain provide an innovative solution for farmers, empowering them to navigate the complexities of the modern agricultural landscape. The system makes use of encryption to secure transactional data using hashes to maintain a block of transactions in a chain manner which is maintained and verified by every node involved to verify the transaction and save the data in a transparent form within the government. The system allows for a full proof, secure and authentic fund allocation and fund tracking system to help form an incorruptible government process. Even then, with further enhancements, this blockchain model can provide a transparency in all the government transactions. There will be no discrepancies of any kind By embracing this technology, farmers can reap the benefits of enhanced transparency, automation, and secure transactions. As smart contracts continue to evolve and gain widespread adoption, the farming industry is set to experience a profound revolution, enabling farmers to thrive in a digital and interconnected world.



#### REFERENCES

1. T X. Li, F. Lv, F. Xiang, Z. Sun, and Z. Sun, "Research on key technologies of logistics information traceability model based on consortium chain," IEEE Access, vol. 8, pp. 69754–69762, 2020
2. H. Xu, Q. He, X. Li, B. Jiang, and K. Qin, "BDSS-FA: A blockchainbased data security sharing platform with fine-grained access control," IEEE Access, vol. 8, pp. 87552–87561, 2020.
3. X. Zhang, P. Sun, J. Xu, X. Wang, J. Yu, Z. Zhao, and Y. Dong, "Blockchain-based safety management system for the grain supply chain," IEEE Access, vol. 8, pp. 36398–36410, 2020.
4. Jiafu Wan, Jiapeng Li, Muhammad Imran, Di Li, Fazal-e-Amin, "A Blockchain-Based Solution for Enhancing Security and Privacy in Smart Factory", IEEE Transactions on Industrial Informatics Volume: 15 , June 2019.



INNO  SPACE  
SJIF Scientific Journal Impact Factor

Impact Factor: 8.379

 **doi**<sup>®</sup>  
**cross** **ref**

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

 9940 572 462  6381 907 438  [ijircce@gmail.com](mailto:ijircce@gmail.com)



[www.ijircce.com](http://www.ijircce.com)

Scan to save the contact details