

BLOCKCHAIN TECHNOLOGY IN AGRICULTURE PRODUCT SUPPLY CHAIN

Ashish Shivji Bhuva

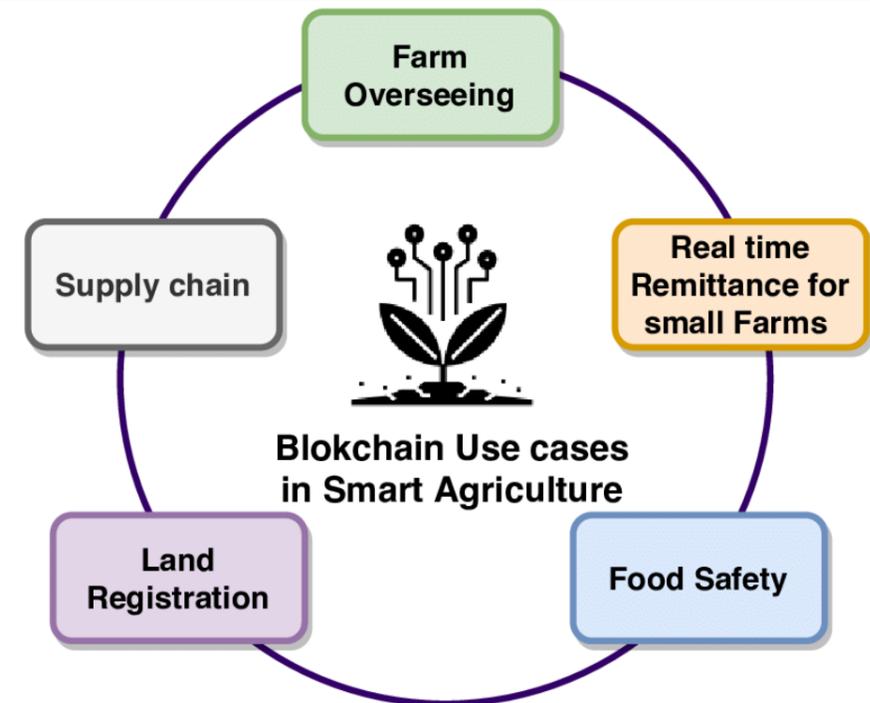
College of Agriculture, Anand Agricultural University, Gujrat

INTRODUCTION

Handling the expansion of agricultural products and efficient logistics chain management in the agricultural supply chain are critical for ensuring product safety. The importance of supply chain traceability has increased as a result of that article's focus on food safety and the possibility of contamination. Additionally, the transfer of agricultural items across international borders necessitates precise tracking and adherence to country-specific laws. In the agricultural and food supply chain, where goods are produced, processed, and transmitted through numerous intermediates, the high-spirited nature of the data makes monitoring and tracing challenging. The existing traceability practise in the agricultural supply chain is primarily impacted by data fragmentation and centralised controls that are open to information, management, and modification. In the event of contamination, this method locates the evidence and swiftly removes the product from the supply chain. The modern supply chain is getting very complicated.

"SIGNIFICANCE OF BLOCK CHAIN TECHNOLOGY IN AGRICULTURE"

- Peer-to-peer transactions can now be conducted transparently and without the involvement of a middleman in the agriculture industry or a bank (for example, Bitcoins). As a result of the technology's elimination of the requirement for a central authority, trust is now granted to cryptography and peer-to-peer architecture rather than an authority.
- It aids in rebuilding consumer and producer trust, which can lower the cost of transactions in the agri-food industry.
- Transparency is provided amongst all parties involved thanks to blockchain technology, which also makes it easier to get accurate data.
- Every stage of a product's value chain, from creation to disposal, may be recorded using blockchain. For the purpose of creating data-driven facilities and insurance solutions that will make farming smarter and less vulnerable, trustworthy data on the farming process is of great value.
- Blockchain technology offers a reliable way to monitor transactions involving anonymous parties. This enables the quick identification of fraud and issues. Smart contracts can also be used to report issues in real time. This is beneficial due to the complexity of the agri-food system and the challenge of tracking things in the wide supply chain. As a result, the technology provides answers to problems with food quality and safety, which are very important to consumers, the government, etc.
- The development of traceability initiatives in the agri-food system is being driven by the need to increase food safety and the assumption of a way to validate food quality attributes.



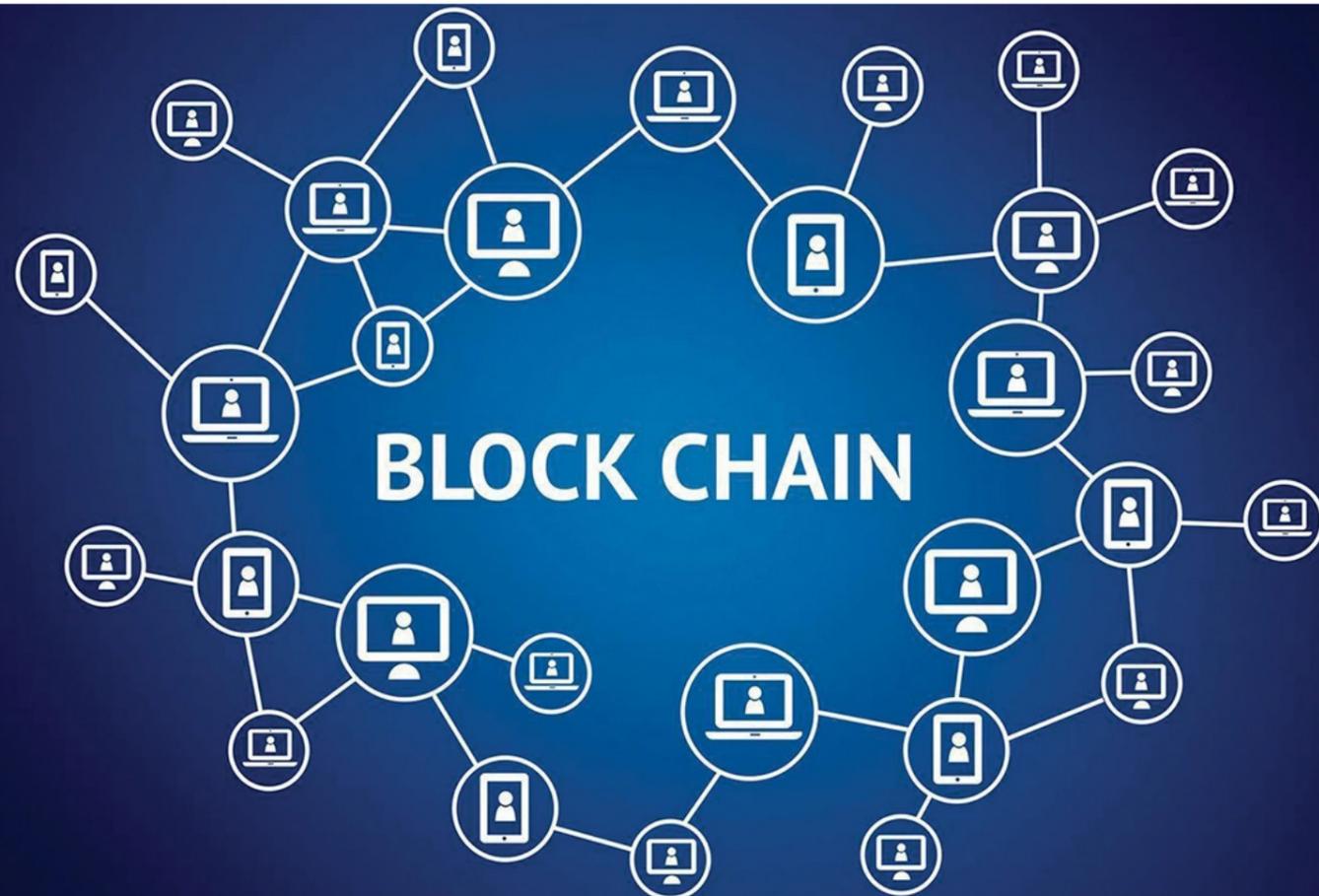
SYSTEM ANALYSIS

Existing Procedure

The expense of agriculture cannot be tracked using a computer system. A farmer cannot receive agricultural products. In India, the farming sector employs 72% of the total population. Farmers receive vast amounts of crop production, but they do not receive the correct price since they can sustain the current situation. They commit suicide as a result, and the government does nothing. So, by tracking the price of the agricultural product from farmer to client, we are seeking to address this problem in the suggested approach.

Disadvantages

- High complexity.
- Low Computation.

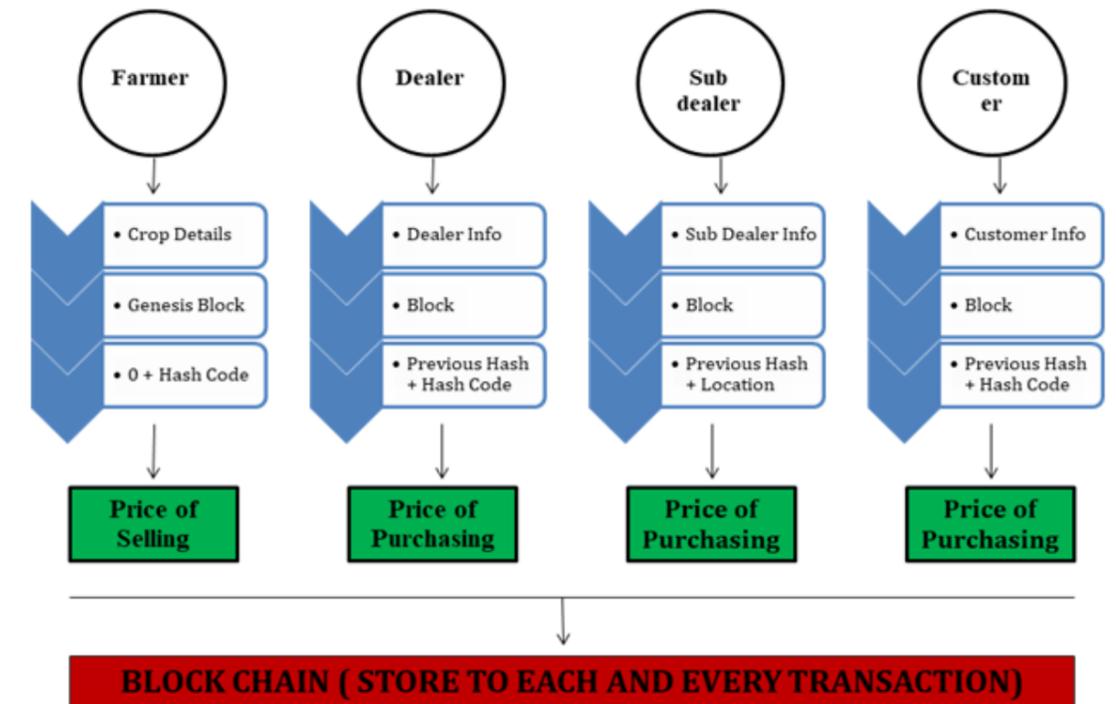


Suggestive System

In the proposed system, a block chain is used to maintain the transparency and integrity of the entire process beginning with the creation of crop information. Blockchain facilitates the management and transparent exchange of crop information.

Advantages

- Customer can get appropriate price of the product.
- Farmer can get the FRP price for his product or crop.
- Government can trace the price of the crop and control the corruption between brokers.



CONCLUSION

An innovative system for exchanging EHRs made possible by blockchain and mobile cloud computing. It identifies the main flaws with the present EHR sharing methods and suggests effective fixes through the use of a working prototype. Designing a reliable access control system based on a single smart contract to govern user access is the major goal in order to ensure effective and secure EHR sharing. The best example of block chain technology is the Ethereum blockchain on the Amazon cloud, where medical organisations can communicate with the EHRs sharing system through a created mobile Android application. In order to achieve decentralised data storage and sharing, it also integrates the blockchain with the peer-to-peer IPFS storage system.