

Revolutionizing Agriculture: Blockchain Solutions for Insurance, Land Records, and Supply Chains in the Asia-Pacific Region

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Opinion Article

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ABOUT THE STUDY

The Asia-Pacific region's agriculture insurance systems range from expansive public sector programs in the Philippines and India to open-market public-private exchanges in Australia and New Zealand, as well as informal mutual insurance and community-based crop and livestock initiatives in Bangladesh, India, and Nepal. Low-cost crop insurance programs are being seen more and more as a way to help mitigate the effects of natural disasters and offer social protection to the growing number of individuals impacted by floods and droughts. But even with all of the advantages, the rural poor's adoption of insurance products is still very low.

One of the reasons index-based insurance isn't smallholder farmers' first choice for risk reduction is that the processes in place to verify claims and execute rewards still take a long time. In the event of unfavorable weather events, index insurance based on smart contracts can automate and significantly streamline the procedure, enabling prompt payouts to the insured. By providing consistent and dependable hyperlocal data to the contract, automatic data feeds remove the requirement for the surveyor to evaluate claims on-site.

Blockchain technology could be used to create an uncorruptible land record ledger for land registration. If this connected successfully to a digital ID or sovereign ID, especially for the rural poor, then maintaining land records during natural disasters and conflicts would not be a problem. In India, the United Nations Development Programme (UNDP) is collaborating with partners to improve the accuracy of land registration. In summary, this project will record all transactions made throughout the sale of a property and keep a permanent copy of them. This implies that you have traceability in almost real-time and transparency regarding the property's condition. Lantmateriet, the Swedish government's land-ownership authority, has tested blockchain technology for property transactions and land registration. They think that this offers a safe and secure means to possess digital originals and that it might save the government hundreds of millions of dollars in expenditures. The Republic of Georgia is testing the use of the bitcoin network to verify official transactions pertaining to real estate.

To promote greater openness in agricultural supply chains, a blockchain can help by offering an unchangeable record of a product's origins all the way to the retail outlet. Customers may feel more confident in the goods they purchase as a result, and producers that practice ethical farming and conscientious consumerism might benefit from this as well. Barilla, an Italian company that makes pasta and pesto sauce, has partnered with IBM to address traceability and transparency in the pesto manufacturing cycle. Every step of the process—from field cultivation, treatment, and harvesting to transportation, storage, quality assurance, manufacture, and finally delivery to the customer is tracked and made accessible on a blockchain system, which the latter may confirm by scanning the QR code on the pesto.

Provenance also uses blockchain, open data, and mobile apps to help businesses establish trust in their products and supply chain. In addition to ensuring food safety, this also helps to lower food fraud and improve brand perception. In Papua New Guinea, Food and Agriculture Organization of the United Nations (FAO) and International Telecommunication Union (ITU) are collaborating with national partners to test a blockchain-based livestock tracking system.