

Development of A Decentralized Crop Insurance System in Pakistan by Adopting Ai and Blockchain Technology

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ABSTRACT

The Majority of the population in Pakistan relies on Agriculture for their primary source of Income and Food. Although, agriculture becomes vulnerable to various risks, such as weather changes, natural disasters, pests, and diseases, that can significantly affect crop yields and quality, leading to financial losses for farmers. Crop insurance is an important part of risk management for formers. However, the existing Crop Insurance systems often suffer from different problems like high premiums, limited coverage, corruption, and delays in payouts. The proposed study used hybrid techniques like Artificial Intelligence, Blockchain and Internet of things to overcome these issues. We gather real time data from different parameters like temperature, humidity, soil moisture, weather patterns, etc. through IoT based Sensors. The Pre-processing method uses AI algorithms to produce efficient data and timely risk assessments for crop damage and yield loss. This system will help insurance companies to offer customized policies with lower premiums and less time spent in processing claims. To ensure the security and transparency of the system, blockchain technology will be adopted to store and management of the data related to the crop insurance policies, risk assessments, claims and help to reduce fraud which improves the accountability, and streamline the insurance process. The proposed system will also help the farmers with crops selection, when to plant them, and how to maximize yield. Mobile/Web app technology will be used to provide farmers with access to the crop insurance system and enable them to submit claims and receive payments through their mobile devices.

Keywords: Internet of Things (IoT), Smart Farming, Crop Insurance, Agriculture Enhancement