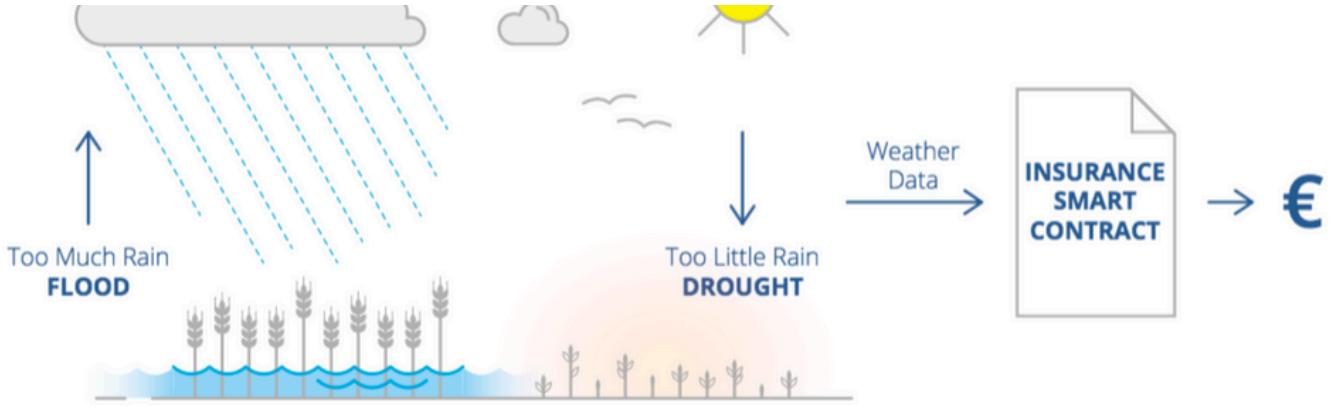
Thailand

Technical Assistance: Assessing feasibility and viability of using blockchain technology for a real-time climate risk insurance system in the agricultural sector
Location: Thailand, with a focus on agricultural regions
Solution: Feasibility and viability study for implementing blockchain technology in real-time parametric insurance system designed for Thailand's agricultural sector
UNEP CTCN grant: USD 222,210



Thailand's agricultural sector is increasingly vulnerable to extreme weather events driven by climate change, which threatens farmers' livelihoods and food security. To address these challenges, a project was launched to explore the feasibility of using distributed ledger technology (DLT) such as blockchain to create a viable real-time parametric crop insurance system. This aims to reduce transaction costs, automate transparent indemnity payments, and make crop insurance more accessible and efficient for farmers.

Objectives

- The primary objective is to assess the technical feasibility and economic viability of implementing a blockchain-based parametric parametric insurance system for the agricultural sector.
- By exploring the potential of DLT (eg blockchain and ancillary digital technologies), the project aims to create a more efficient and transparent insurance system that can better serve the needs of Thai farmers, reducing their vulnerability to climate-induced financial losses.

Social Impact

- The study can contribute to gender equality by addressing the issue of an inequitable access to financial services and insurance products for rural households headed by women.
- By reducing the vulnerability of Thai farmers, an efficient parametric crop insurance system could reduce the migration of rural communities to urban areas in search of new employment due to climate-induced crop failures.

Adaptation Impact

- **Enhanced Climate Resilience and Financial Security for Farmers:** The project enhances the resilience of Thai farmers to climate-induced extreme weather events by providing access to a more reliable and efficient crop insurance system. This reduces the financial risks associated with agricultural losses due to climate variability.
- **Increased Accessibility of Insurance Products:** By reducing transaction costs and automating indemnity payments, the project makes crop insurance more accessible to a larger number of farmers, particularly those in remote or underserved areas.
- **Improved Trust in Insurance Systems:** The use of blockchain technology enhances the transparency of the insurance process, building trust between farmers and insurers and encouraging greater participation in insurance schemes.

Other Co-Benefits

- Improved trust between farmers and insurers
- Reduced climate-related financial losses
- Strengthened digital infrastructure in the agricultural sector

Innovation & Technology

- **Blockchain Technology**: Implementation of DLT such as blockchain will ensure transparency and efficiency in parametric insurance systems, by using smart contracts to automate claims processing.
- **Internet of Things (IoT) Sensors**: The use of IoT-enabled sensors to collect real-time climate data will trigger automated insurance payouts based on predefined weather conditions.
- **Smart Contracts**: The development of smart contracts, which execute automatically when certain conditions are met, will reduce the need for manual intervention and speed up the claims process.

Replication Potential

- The project demonstrates a replication potential in addressing sub-optimal insurance practices for climate-induced losses by agricultural producers.
- The project demonstrates the feasibility and viability of using blockchain technology to improve transparency and efficiency of crop insurance, thereby also enhancing accessibility.

Key Figures

- USD 222,210 project budget
- Beneficiaries: Up to 50 experts and specialists involved in the study and supporting project implementation. Large potential impact on indirect beneficiaries (farmers) if project is scaled up.
- A diverse set of stakeholders, including government and agencies, banks, and farmer groups were engaged in the project
- The project contributed primarily to the following SDGs:

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