Blockchain technology and weather index insurance

ICII Session 18 “Insurtech for inclusive insurance”

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Etherisc Decentralized Insurance Ecosystem

Ethereum Foundation
Blockchain, Technical Research

Decentralized Insurance Foundation, Switzerland
Promotion, Conference, Community, Grant Programme

Acre Africa
Agricultural InsurTech

Etherisc
Impact Insurance

Grants
Agreements and contracts can be converted to code called “smart contracts” which automatically execute functions previously performed by an individual.
Weather index insurance on the blockchain

Smart Contracts: Well suited to parametric insurance
Rainfall and drought
Disasters like, earthquakes, hurricanes and floods
ACRE Africa is the lead partner to develop, provide, and distribute the index insurance product to farmers. Manages farmer engagement and communication through mobile and web interfaces.

Etherisc provides and maintains the backend of the blockchain platform (putting policies on blockchain-based smart contracts) and designs & manages the user interface.
High Level Architecture

Actuarial Garage → Pricing Tables etc. → Rainfall Data

USSD (SMS Gateway) → Customer & Payment Data

Data QA → Farmers Notifications Term Sheets

Contract Review Engine

Payout Schedule → Payout QA & Authorization

ARC2 Satellite Data → MPesa Payouts
## Some results

<table>
<thead>
<tr>
<th>Before Blockchain</th>
<th>With Blockchain</th>
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<tbody>
<tr>
<td>Days, weeks, months of idle time</td>
<td>Immediate processing</td>
</tr>
<tr>
<td>Human-to-human activity has to be coordinated</td>
<td>Decisions are made immediately after input data</td>
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<tr>
<td>All decisions made by humans</td>
<td>Decisions are an automated process</td>
</tr>
<tr>
<td>Many people involved, only human decision-makers, error-prone</td>
<td>Massively reduced number of people</td>
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<tr>
<td></td>
<td>Reduction of interfaces and media disruption</td>
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<tr>
<td></td>
<td>Increased process resilience and robustness</td>
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<tr>
<td>Difficult to audit, it’s very costly to document each decision and the underlying data</td>
<td>Easy to audit, complete audit trail of every process step</td>
</tr>
<tr>
<td>Farmer receives payment &gt; 3 months after seasons end</td>
<td>Farmer received mid-season pay-out</td>
</tr>
</tbody>
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### Next

<table>
<thead>
<tr>
<th>Traditional capital investors in insurance products</th>
<th>Non-traditional capital investors in insurance products – Staking becomes possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>No insight in decisions No clarity in weather data</td>
<td>Full transparency Stakeholders can always check state of a policy</td>
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Insurance and DeFi

DeFi = Decentralized Finance

- Stablecoins (DAI, Tether)
- Lending/Borrowing
- Decentralized Exchanges
- Derivatives
- Smart Contract Insurance

Smart contracts automatically settle complex financial products
Thank you!

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