

L'assurance paramétrique comme outil de gestion des risques climatiques dans l'agriculture

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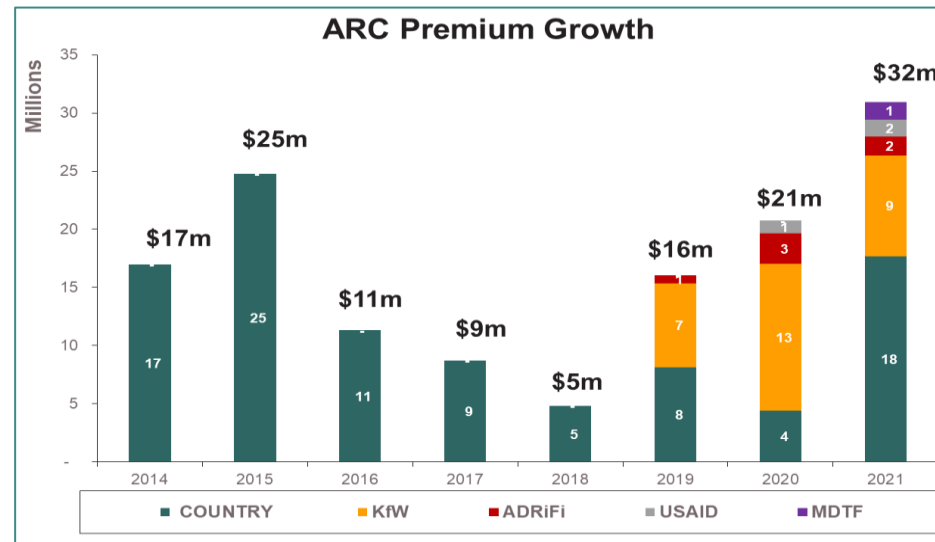
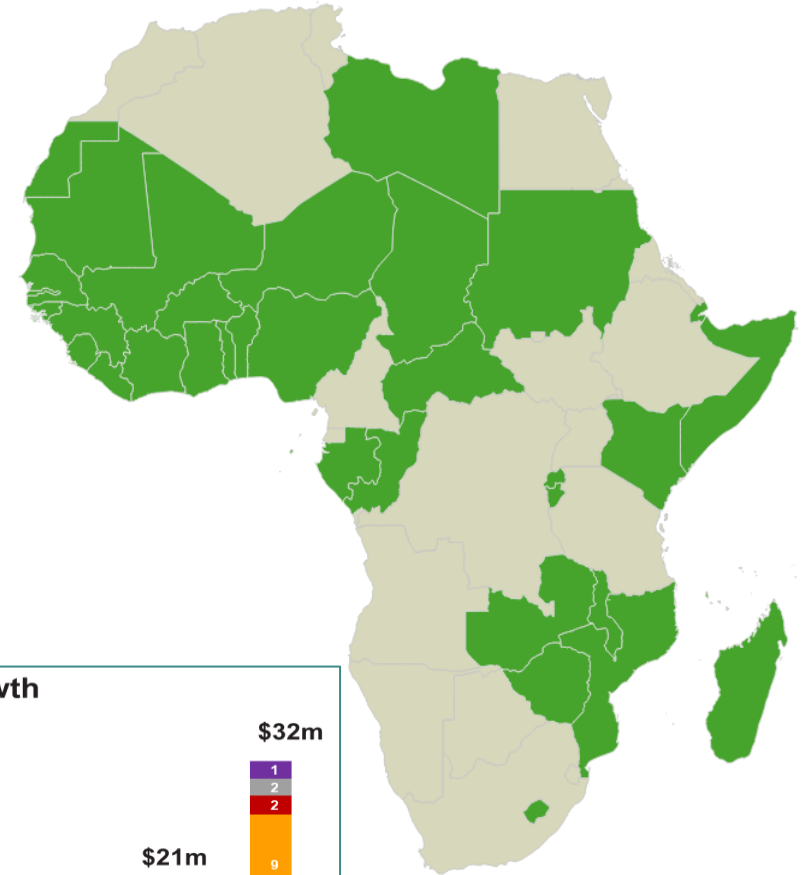
Content

- Brief presentation of African Risk Capacity (ARC) Agency
- Insurance mechanism by ARC
- Parametric insurance principles
- Potential of parametric insurance in Belgium

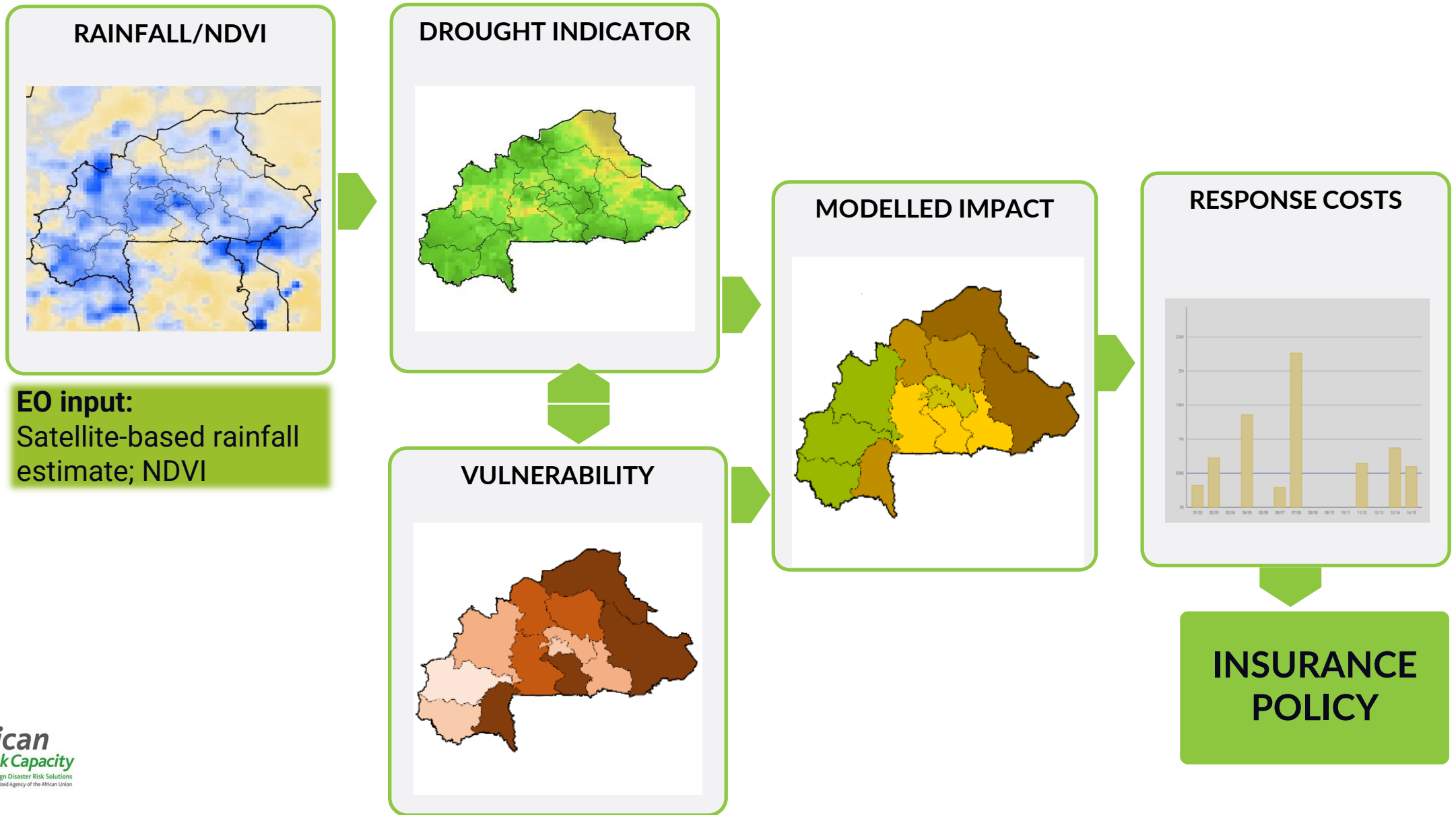


African Risk Capacity (ARC)

- A specialized agency of the **African Union (AU)**, headquarters in Johannesburg, South Africa
- **35 countries** formally members (signed the treaty)
- **Mandate:** help African countries improve their capacities in natural disaster risk management, in particular for climate-related hazards.
- Disaster response **financing mechanism:** insurance to countries and humanitarian agencies.
- Operational in **17 countries**



Drought impact assessment at ARC



What is a Parametric Insurance ?

- Unlike the traditional insurance, which pays compensation based on the actual damage observed, a parametric insurance is based on the measurement of a specific index (parametric index) to establish the amount of the compensation.
- The risk transfer parameters are defined according to the climatic risk profile (drought, cyclones or floods) of each country (historical events + simulations).
- Insurance pay-out triggered when the conditions predefined in the contract arise.
- No ground damage assessment.

Advantages of parametric insurance:

- **Speed of payment of compensation:**
ARC guarantees a maximum period of 10 days between the end of the cyclone and compensation for the insured country.
- **Lack of information asymmetry:**
The insurer and the insured have the same information as that given by the measurement of the parametric index. Hence the interest of the TCE (Tropical Cyclone Explorer) software made available to insured countries.

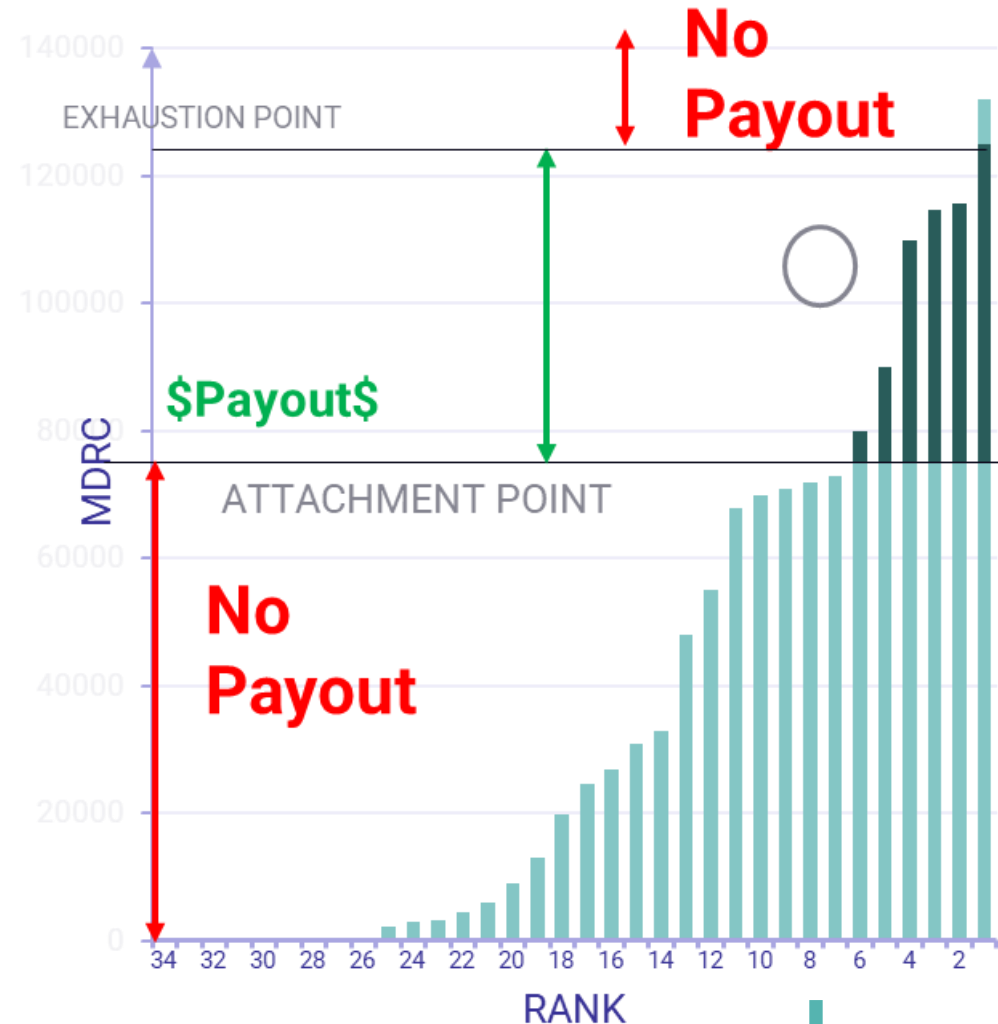
Risk transfer parameters (insurance cost and expected payout)

The **Attachment Point** is the loss value at which the insurance policy begins to pay out.

It functions like a deductible/excess in a standard insurance policy. **Losses below the attachment point would be absorbed by the country.**

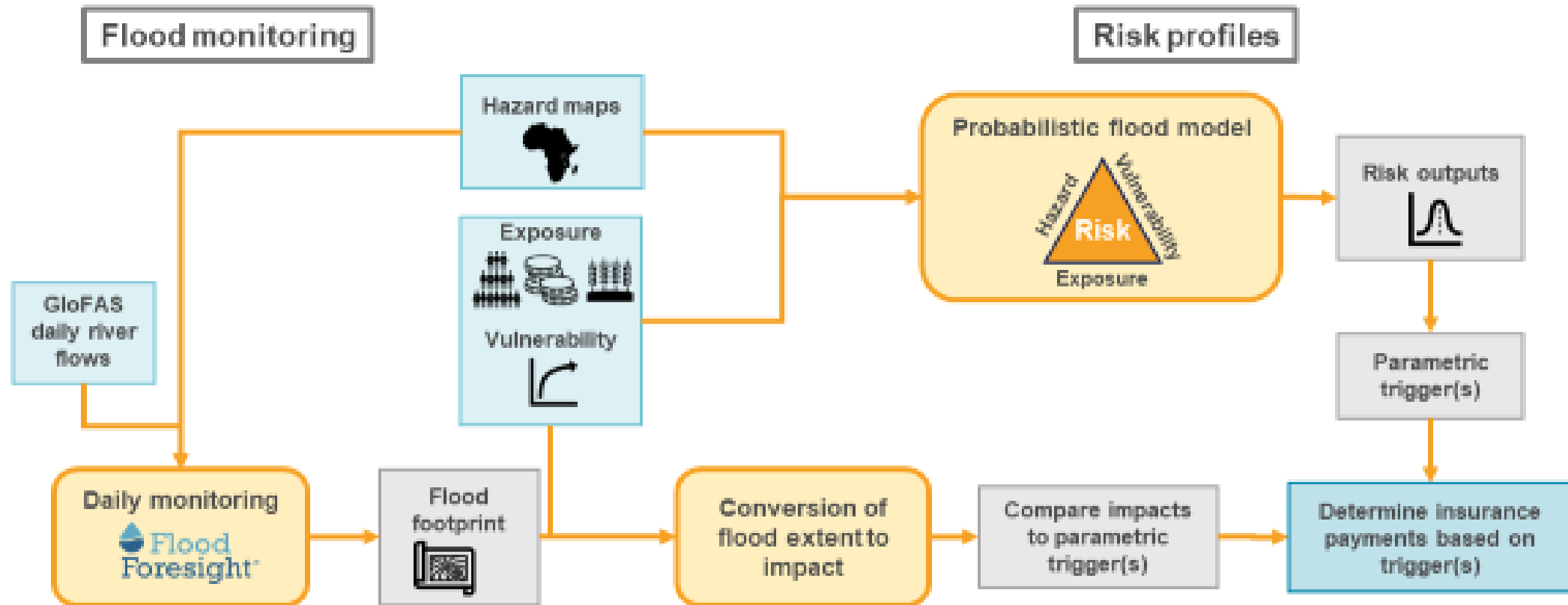
The **Exhaustion Point** is the level at which the maximum pay-out under the policy is paid.

Losses above the exhaustion point would be retained or absorbed by the respective Government.

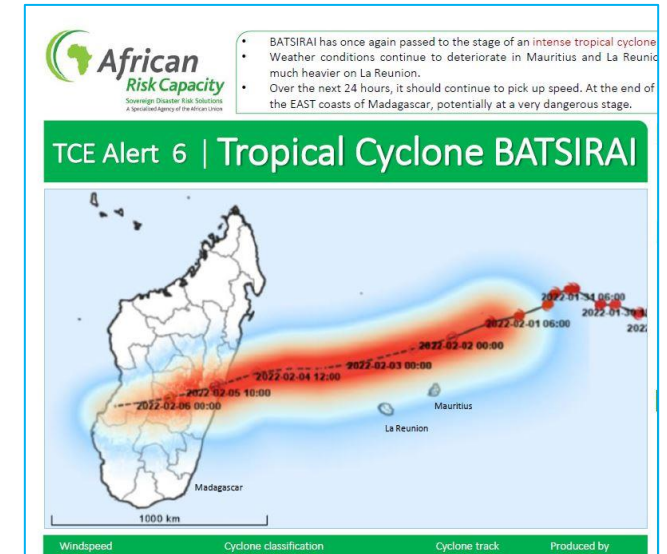
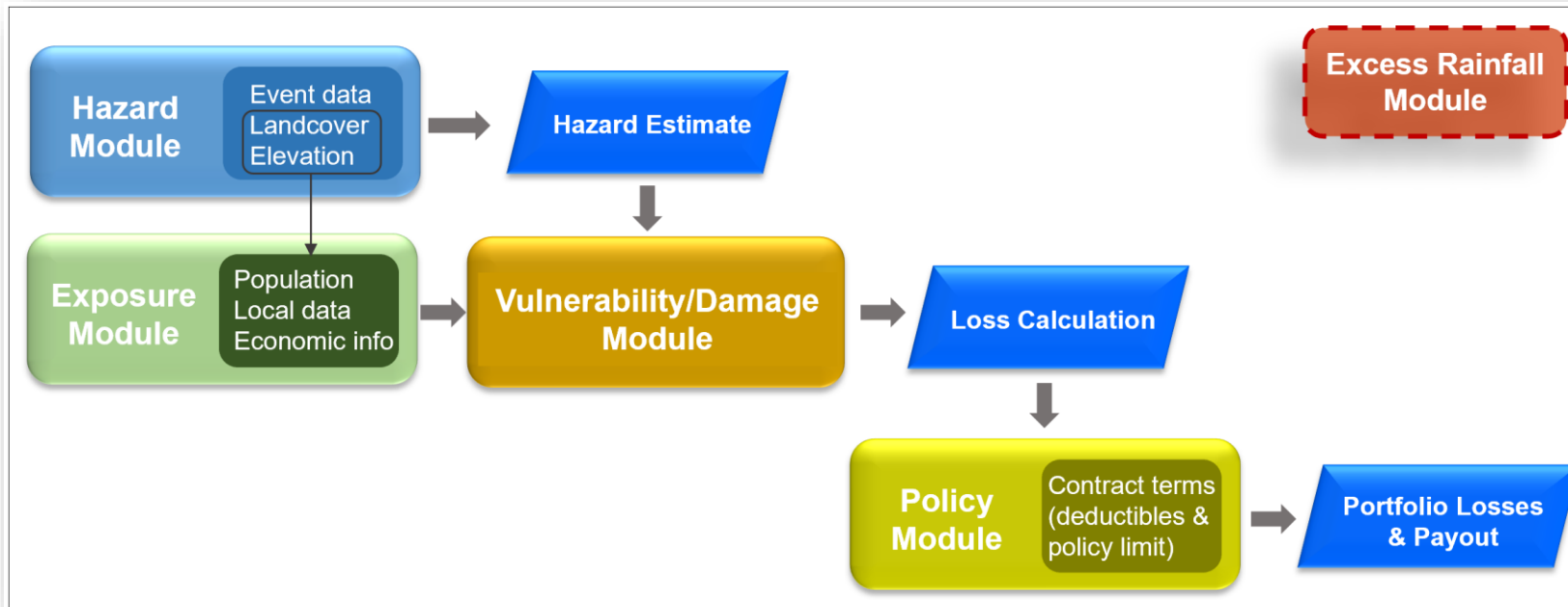


Other perils covered by ARC insurance - Flood


COMPONENTS OF THE FLOOD RISK MONITORING AND PROFILING



Other perils covered by ARC insurance – Tropical cyclone

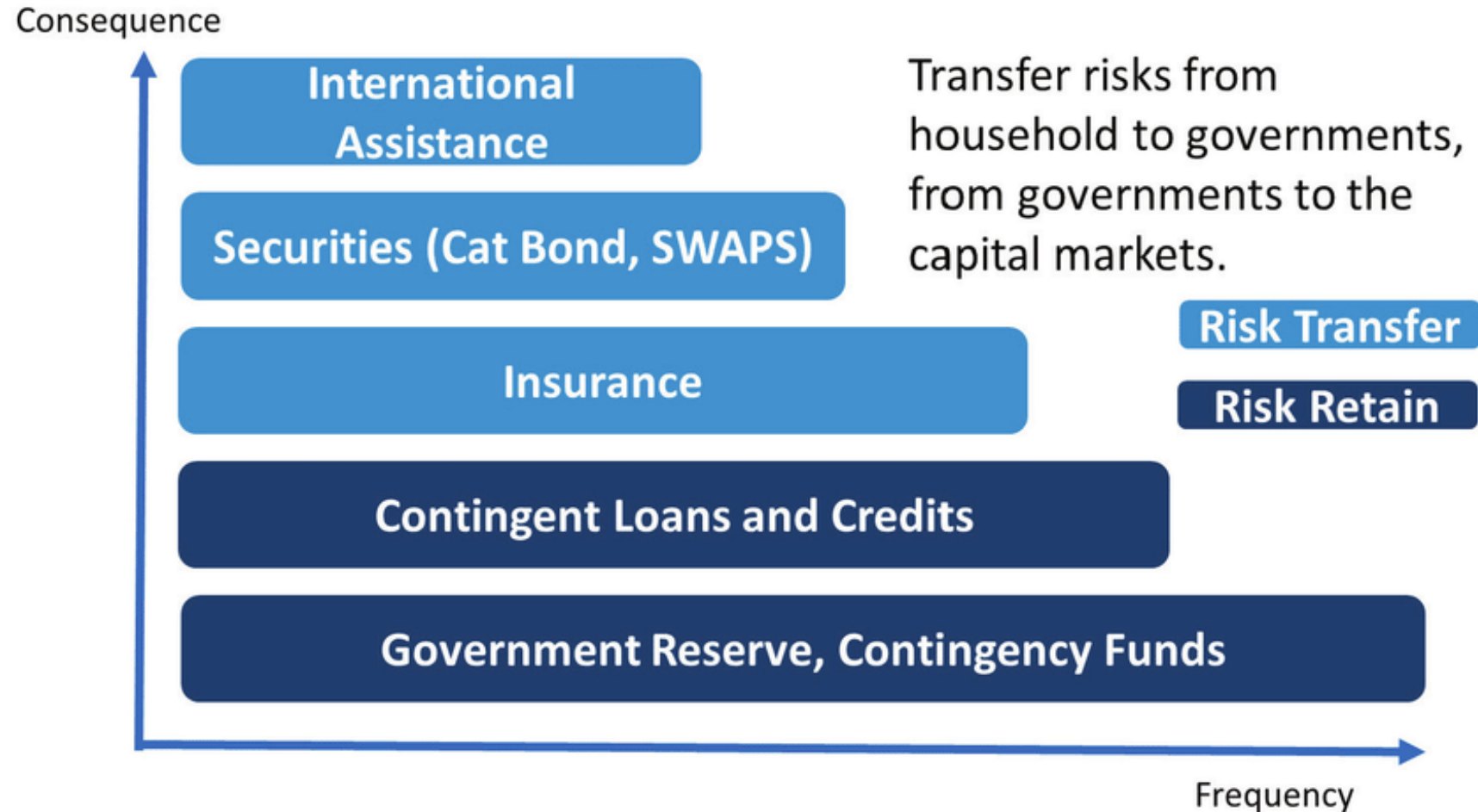


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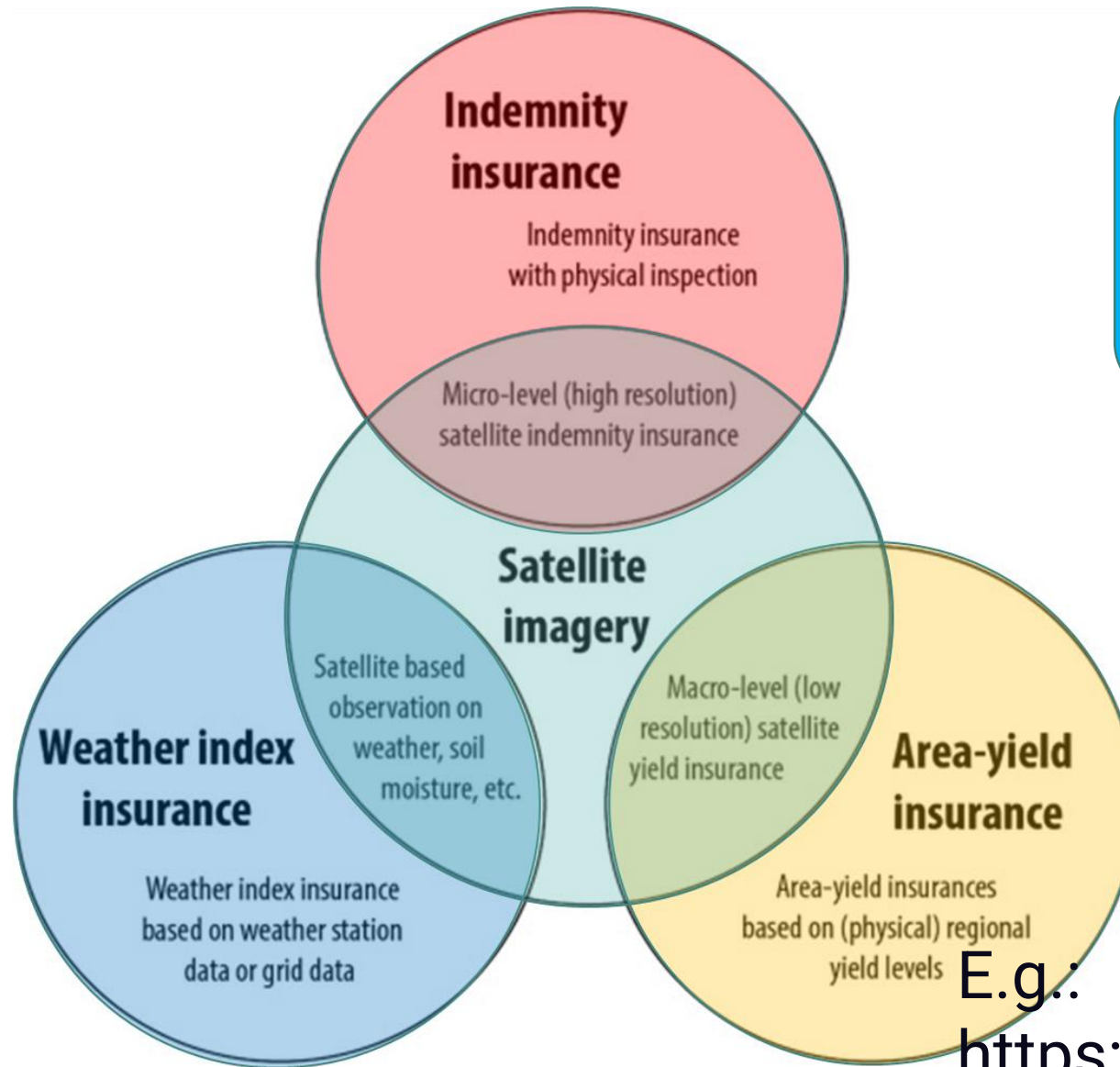
 **Francois Kayitakire**
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The recent Tropical [#CycloneBATSIRAI](#) affected 112 100 people in Madagascar 🇲🇵, displacing at least 61 500. This catastrophic event has triggered an insurance payout of USD 10.7 million from the ARC Group to support the Government of Madagascar and its people to build back better

Parametric insurance potential in Belgium – Risk transfer principles



Parametric insurance potential in Belgium - Options



Excess rainfall and flood risk covered in the same way:
model + rapid assessment with EO

Parametric insurance potential in Belgium – Enabling environment

- Precipitation, temperature and other climate variables data quality fast improving (spatial and temporal resolutions, accuracy, reliability)
- Models (crop, flood) expected to provide sufficient performance for insurance of low-probability events;
- Insurance taken by governments or sub-regional institutions: aggregation that lowers errors (basis risk) compared to individual farm insurance;
- Trade-off between high-accuracy loss estimate but slow process and less-accurate estimate but rapid indemnification;
- Redistribution mechanism to individual farmers TBD

E.g.: <https://www.agifra.be/parametrics-2020>

Satellite-based precipitation estimates – publicly and easily available

- CHIRPS:
 - ✓ 0.05 by 0.05;
 - ✓ Daily and 5-day sums;
 - ✓ Almost globally available (50S to 50N);
 - ✓ From 1981 to present
 - ✓ Blended product: satellite + gauge observations;
- Integrated Multi-satellite Retrievals for the Global Precipitation Measurement (GPM) Mission (IMERG).
 - 0.1 by 0.1
 - Every 30 min;
 - Almost globally available (60S to 60N);
- RFE2; Tamsat v3;

<https://www.arc.int/>

「Thank You」