Case Study 2

Key Facts

Farm / Industry:	Sugarcane
Risk:	Rainfall due to Cyclone
Location:	Hampden, Central Queensland
Solution:	'cat-in-a-box' Index-based Insurance with additional Rainfall Trigger

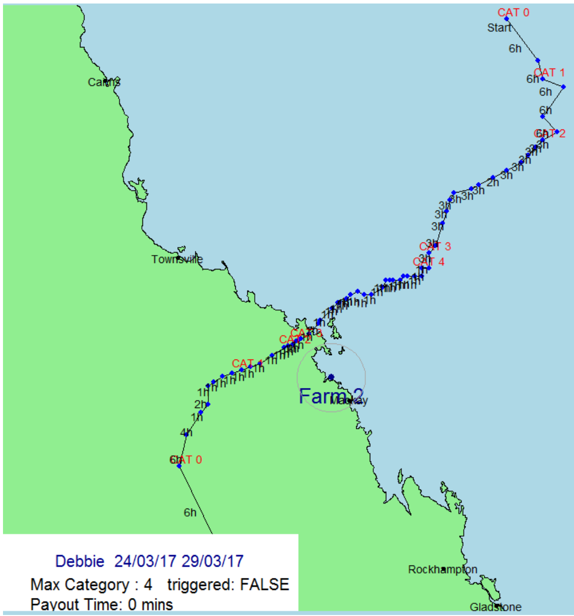
Farm Profile

The farm is situated west of Mackay in central Queensland. This high performing, 210-hectare dry land farm yields around 15,000 tonnes a year. The main farm comprises of 180 hectares with a futher 30 hectares leased.

Risk

Flooding due to intense rainfall, often associated with cyclones, has been identified as a major risk for this farm and is common for many sugarcane farms.

In March 2017, Cyclone Debbie caused widespread damage to the region's sugar industry in the. The associated rainfall resulted in widespread damage through the region. Earthworks and laser leveling are used extensively to manage drainage in the high rainfall.



Action

After consultation with the farm, a 'cat-in-a-box' cover with an additional rainfall trigger was developed. The rainfall trigger was set at 400mm within a 48-hour period, and a circle with a radius of 50km was positioned over the farm; the centroid of the circle was 25km above the location of the farm to best position it within the indemnification zone.

Policy Triggers

CycloneTrigger

A 'cat-in-a-box' is a simple weather index trigger mechanism which depends on the physical parameters of the event. In the case of cyclone risk, the location of the farm within a specific geographic zone (box) and its category as it enters the zone. If these are met, the policy triggers, and the payment is made.

Rainfall Trigger

Where a defined level of rainfall is exceeded within a defined period (typically aligned with the covered cyclone activity) the policy is triggered. The rainfall readings come from a pre agreed weather station, and the trigger parameters are agreed before the policy starts.

Result

- **Weather station:** Mackay M.O weather station
- **Indemnification Zone (box):** centroid located 25km north of farm with a 50km radius.
- **Policy Period:** 1 August 2018 to 30 April 2019.
- **Policy Trigger Event:** Any cyclone which reaches category one or above while within the indemnification zone during the policy period **AND** 400mm or more of rainfall over a 48 hour period that overlaps the period that the cyclone is within the indemnification zone.
- **Payout:** If a policy trigger event occurs, this policy will pay the full policy limit.
- **The Rate on Line (ROL):** 5.7%

There is little doubt rainfall from cyclones causes damage to many farms in this region. The above policy, based on rainfall data from the Mackay M.O weather station, would be available to any farms in the region that consider this a risk to their business.

The ROL indicates that if the farm wanted $100,000, the premium for a policy with that limit would be 5.7% of $100,000 or $5,700. the amount the policy pays out is scalable to the size of coverage wanted or needed for the farm to offset the impacts of the disaster, but the ROL is consistent; 5.7% of the policy limit.

Demonstrated

A severe cyclone can result in a 25% decrease in yield potential due to crop damage and crop loss; plus around about $200 per hectare of earthworks to help the farm recover.

Incoperating a CCS downgrade a generic sugar price could be $37.45 per tonne. This equates to a financial impact of $211,999. If the farm wanted to offset all of this financial impact with the above-described ‘cat in the box’ and rainfall cover, then the premium would have be 22,471.9.

After consultation with the farm, a policy limit of $150,000 is more likely than the above mentioned $211,999. A payout of $150,000 will stop the farm from going backward and enable the farm to recover back to pre-event levels.

Cyclone Debbie did not enter the indemnification zone, so this policy would not have been triggered. However, Cyclone Debbie was a major impact on this farm, so it will be worth considering the size of the indemnification zone or a different trigger event.