

# **Response to IPARTs Draft Report**

**By**

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**12<sup>th</sup> August 2016**

## Response to IPARTs draft report:

The NSW Government has expressed an interest in the potential for multi-peril crop insurance (MPCI) to increase farmers' resilience and preparedness for drought, and reduce their reliance on government assistance.

It has asked IPART to evaluate several measures designed to increase the uptake of MPCI. Please find below observations made by CelsiusPro (Aust) Pty Ltd on IPARTs Draft Response to the NSW Government.

CelsiusPro was founded in early 2008 and is specialized in structuring and originating tailored index solutions to mitigate the effects of adverse weather, climate change and natural catastrophes. By applying its index logic, CelsiusPro analyses big data to design insurance products. CelsiusPro's technology enables smart climate insurance and enhances climate smart behavior. By reducing distribution, claims and administration cost lower premiums are achieved.

Below are IPARTs Draft findings to which CelsiusPro makes the following comments:

### 1.6 Draft findings:

#### 1 **Multi-peril crop insurance could play an indirect role in increasing crop farmers' self-reliance during droughts.**

*Our Response:*

*MPCI can shift a portion of drought risk from the Government to the market, however we believe that in its current form it will not be effective.*

*In our opinion these are the top 10 issues with the current form of MPCI contracts:*

- 1 *Premiums are too costly and favour wealthy growers,*
- 2 *Setting up the premise for the cover is too expensive – additional costs should be borne by the insurer,*
- 3 *Fear of Missing Out (FOMO)– sends misinformation about the reasons for the cover,*
- 4 *Limited crop cover ie broad acre only wheat – an insurance offering needs to cover all farming activities,*
- 5 *Concentration risk from re insurers,*
- 6 *Damage needs to be assessed ie claims need to be submitted,*
- 7 *Payouts need to be made at crucial times – in 20days after the event,*
- 8 *Coverage should be via a region not per farm – it should be generic to the varying crops,*
- 9 *Premiums should reflect the risk and probability of payouts,*
- 10 *Technology should be used to lower premium costs.*

*In addition, the IGA objectives 6(a) of the Agreement was to prepare farm families and primary produces for the impact of increased climate variability. We feel a focus on all aspects of insurances/derivatives offered that can cover off on this object need to be included in any discussion on drought reform. Further we are of the opinion that a Farmers risk is just not limited to dry periods. Credible risk shifting products need to be generic across all weather events, generic across all production, be readily accessible as the season develops and have premiums that reflect the risk (2%- 15%). If 80% of the input to a successful crop is the weather then logic suggests a focus on products that help to mitigate this risk.*

*It was interesting to hear that 80% of drought relief was provided to pastoralists. Greater advances in technology have already allowed us to shift this type of risk to the market via the use of single peril index insurance over the NDVI. As noted in Kenya, we are already delivering index insurance solutions over the NDVI (Normalised Difference Vegetation Index) to pastoralists with a 100% take up. (This is a subsidised cover by the Government to protect donor organisations). This index was used as a proxy against drought and heat. It provided the “best fit” solution for the consortium (Kenyan Government, World Bank, International Live Stock Research Institution and a local Insurance firm) to combat pastoralists against drought and to protect donor organisations investments. The Kenyan Livestock Insurance Program (KLIP) was formed with the NDVI as the basis for the insurance.*

*We feel that adoption rates of types of index insurance plus the use of a MPCl in an improved form is a viable option for the industry. Further that adoption rates on the issuance of index insurance if increased would not only aid the ability of growers to be able transfer a majority of climatic risks from them, and the government into the market but also encourage new entrants into the insurance market, thus driving down premiums. As such we feel that the Draft findings would be more correct if you add all types of insurance/derivatives in the offering.*

**2 Multi-peril crop insurance is unlikely to displace government assistance, such as concessional loans and farm household support payments during droughts.**

*Our Response:*

*We concur with the draft findings that MPCl in its current form will not displace all current assistances. However, the adoption of credible insurances can help to assist and to ease the taxpayers burden. A further anecdotal aspect to agricultural insurance that looks to cover production is that improves the ability for the Farmer to increase his appetite for risk and those potential yield by knowing that certain risk are under written. He is happy to take on more risk to more produce a higher yield*

*For instance the use of Single Peril Index Insurance that addresses a dry spring or a wet harvest enables the grower to be confident about the application of say urea to increase yield. ( See Appendix 1 and 2 for types of cover). Increase yield and increasing income is an important measure to increasing farm resilience against perils.*

**3 An upfront premium subsidy complies with the drought framework. 48**

*Our Response:*

*Subsidising the premium in some form we believe is a solid start for the dissemination of insurances in this sector. We do believe that any subsidy should encompass all types of insurances and not just MPCl. Farmers need to be introduced to all types of risk mitigating tools. The subsidy provides for them to do it directly and not through a third party provider, to gain experience in their use first hand. For example today if a grower looked at an index insurance option for drought, frost or rain for a part of the season ie a sum insured of \$100,000 where the premium is say \$5000, the FBSPD subsidy of 50% reduces the cost of the cover by \$2500 or a 2.5% premium, which is affordable to all growers. Extrapolating this through out the full grant provides for \$1,800,000,000 worth of relief cover should growers/pastoralists take up the subsidiary and apply it to an index insurance option similar to the example. This is an affordable premium that does most of the heavy lifting when extreme drought/or climatic event occurs. Any cost in such a situation of a full payout is recovered from the market and not the government/public purse. A “cost burn” analysis will show the probability of a payout occurring. Note this cover is for all types of production including livestock.*

*Our experiences with those Farmers that use index insurance is that they believe that the insurance has a welcomed place in the market and they include them in their arsenal of hedging tools along side MPCl. Therefore, we would support a direct subsidy.*

**4 A 5-year stamp duty waiver on insurance premiums does not comply with the drought framework, because it would not be effective in achieving its objectives. In addition, it is not complementary with the upfront premium subsidy, which would be more effective in achieving the same objective. 60**

*Our Response:*

*We believe that any reduction in the cost in the issuance of a risk-mitigating tool should be applied. The benefits or added incentives will flow back in great uptake of insurance. Anecdotal evidence suggests that Farmers just do not like to spend money and when they do it is with extreme caution. If an incentive is applied then the benefits can only flow back. In addition the amounts of S/Duty are marginal so waiving the expense is just another incentive.*

**5 The NSW Farm Business Skills Professional Development Program does not comply with the drought framework, but can be redesigned to comply by removing the overlap between it and the Commonwealth Managing Farm Risk Program. 64**

*Our Response:*

*Removing the overlap and applying or redesigning the program could make significant savings. We believe that motivating the grower through the FBSPD rebates needs to be “tweaked” in order for it to get better traction. We are of the opinion that insurance education should be done by a certified issuer of the product who has a real ongoing market incentive to look after his client rather than a temporary incentive via a rebate to educators. Education for the grower should be ongoing as structures change to meet seasonal needs. Further, insurance products such as index insurance/derivatives and MPCl are outlined within a legal framework already ie, a Product Disclosure Document provided to the grower by the issuer. Further, licensing to offer these products falls under the governance of the Corporations Act, which is policed by ASIC. As such it is our opinion that education should be done by the issuer and not a third party with a different motivation. The insurance community is easy to motivate as this is done through traction in the education they offer which results in more sales, then more market participants which ultimately reduces premium values of the insurance to the end user. Offering an incentive for regulated providers in some form would enhance the ability for providers to disseminate product.*

*We concur with the finding.*

**6 Additional weather stations comply with the drought framework. 71**

*Our Response:*

*Great, the more automated stations the better the data. In addition the use of big data sets, via single sources ground station or remotely sensed data via satellite will be become increasingly important to help mitigate the risk that climate changes and adverse weather will have on the industry.*

*As an example, the use on the NDVI is the first of many index insurances due to come on line that are remotely sensed yet provide the relevant granulated data to enable index insurance products to be built and then sold as risk mitigating tools to the market. CelsiusPro is in the midst of developing other index insurance contracts that cover for instance: evapotranspiration, soil moisture, and radiation.*

**7 Sharing information with insurers does not comply with the drought framework because it would not be effective in achieving its objectives. 75**

*Our Response:*

*We feel it is irrelevant and agree.*

CelsiusPro is more than happy to expand on any of the above. We thank IPART for giving us the opportunity to express the above thoughts.

We feel establishing a Primary Industry Bank of Australia style of facility but focused on re insurance would be more worthwhile to all stakeholders. We have an existing pool of funds, which can be managed to issue insurance to the primary sector in a similar manner to a Reinsurer. This way all profits go back to Australians, premiums can be reduced and claims can be paid.

We would be prepared to help in any capacity if required.

Yours faithfully



Jonathan Barratt BEc (Hons), M Ec, GradDip Corp Law  
CEO CelsiusPro



## INTRODUCTION

CelsiusPro is an award winning company. It was established in 2008 to meet the growing needs of corporations looking to hedge their income and balance sheets against the affects of adverse weather.

Our Management Team are specialists in single peril weather index insurance and bring relevant "know how" to any discussion on **climate change** and **how adverse weather effects incomes and balance sheets**. The length and breadth of our experiences suggest that we are industry "go to" persons, corporations; NGOs and governments look to for advice.

Testimony to this lies in the industry achievement awards we have received. In 2008 we won the Swiss Insurance Innovation award and in 2014 won the ANZIFF industry award for innovation.

## AGRICULTURE

The success of growing a crop is highly correlated to the weather. In some cases the weather dependence of yields is as high as 95%. The use of single peril index insurance can hedge you against this risk and potential loss of yield.

There are **FOUR TYPES OF COVER** that Growers use when considering these risks:

1. Seasonal index insurance covering rainfall deficit (May/June through to October),
2. Spring rain index insurance covering rainfall deficit (August through to October),
3. Short term index insurance covering any climatic event throughout the season (normally a 1-2 month risk window for rainfall deficit or 1 month for heat days),
4. Wet harvest index insurance (normally a 2 week window).

Call us for a free no obligation quote.

## OUR AWARDS



**WET HARVEST  
DOWNGRADE  
COVER**

**WEATHER CERTIFICATES**

**CelsiusPro** 

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Find out how you can **take advantage of forecasted weather events** to help **maximise potential profit** and mitigate losses with our specialised **WEATHER CERTIFICATES.**

# WEATHER CERTIFICATES

## ADVANTAGES

Growers need the **flexibility and transparency** to choose what suits them for the up and coming season. Each season is different. They need to be able to take advantage of forecasted events to help maximize their potential to mitigate losses.

CelsiusPro is the only award winning firm that can provide solutions tailored to meet your needs when insuring losses associated with adverse weather.

Weather Certificates provide you with a solid **ADVANTAGE IN PROTECTING INCOME:**

- They can be booked 20 days out from the risk period
- No sign up fee
- They cover any crop at any time
- They are paid out automatically, 20 days after the event period if it is triggered
- They are used when needed (i.e. not every year)
- Transparency for back testing for relevance
- No claims need to be made. Triggered payouts are automatically paid into your Bank account
- Tailored to your budget and risk profile
- Underwritten by major global reinsurers
- Premiums are based on the level that maximizes the full payout and chosen by the grower

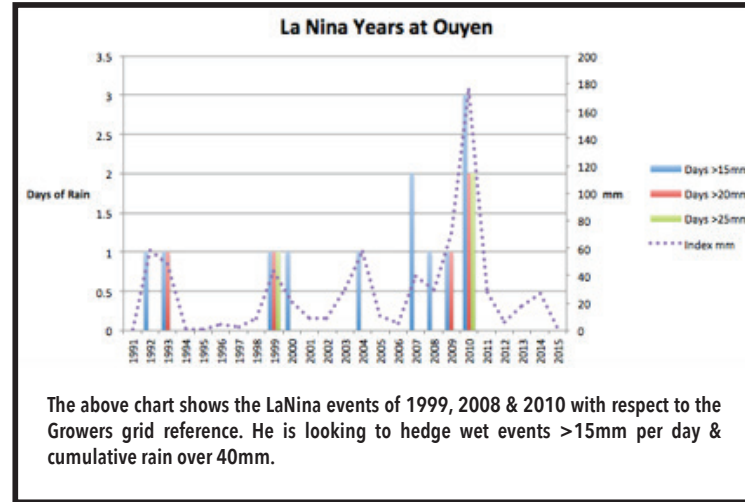
## EXAMPLE (WET HARVEST DOWNGRADE COVER)

Our grower lives near Ouyen Vic. His agronomist has told him that his harvest window would take place in the last two weeks of November. He is concerned that rain over harvest will downgrade his crop and potentially give rise to a "wash out". Thereby reducing his income. He decides to hedge this risk. Based on past data over Nov- Dec he knows that it has rained 3 non-consecutive days over 15mm, with the highest cumulative rainfall being 179mm in 2010. One day of rain followed by sun will potentially not harm his quality however a series of days over will.

He chooses a structure that encompasses daily and cumulative rain events over the harvest.

Note that the grower can hedge any weather event, too much rain, too little, too hot, too cold, however he feels that rainfall deficit over spring is his main risk for the season.

WET HARVEST DOWNGRADE COVER FOR OUYEN VICTORIA (EXAMPLE):



RAW WEATHER DATA OVER THE LAST 25 YEARS:

Weather Index for the last 25 years 15/11 - 15/12						
Accumulative Rain Index		Rain Day Index >Xmm			Year	Fall in mm
Year	Index mm	Days >15mm	Days >20mm	Days >25mm		
2010	174.9	3	2	2	08.12.2010	63.2
2009	70.86	1	1	0	07.12.2010	41.7
1992	58.05	1	0	0	21.11.1999	32.1
2004	57.56	1	0	0	22.11.2009	22.59
1993	48.44	1	1	0	12.12.1993	21.19
1999	43.13	1	1	1	12.12.2004	18.87
2007	39.36	2	0	0	21.11.2007	18.22
2003	30.48	0	0	0	18.11.1992	17.42
2008	29.94	1	0	0	18.11.2000	16.27
2011	28.21	0	0	0	13.12.2008	15.92
2014	27.2	0	0	0	29.11.2007	15.72
2000	20.96	1	0	0	28.11.2010	15.7
2013	18.1	0	0	0	27.11.2009	14.25
2005	10.85	0	0	0	08.12.2004	13.91
1998	9.17	0	0	0	07.12.2004	12.07
2002	8.9	0	0	0	20.11.2003	11.57
2001	8.79	0	0	0	04.12.2013	11.5
2012	5.8	0	0	0	29.11.2009	10.8
2006	5.64	0	0	0	09.12.2009	10.79
1996	4.25	0	0	0	09.12.2010	10.7
1997	2.55	0	0	0	14.12.1993	9.86
2015	1.3	0	0	0	30.11.2010	9.4
1995	0.86	0	0	0	21.11.1992	8.62
1994	0.84	0	0	0	01.12.2010	8.4
1991	0.58	0	0	0	26.11.2009	8.29

This data provides a good picture of the **WEATHER RISK THE GROWER HAS OVER THE HARVEST PERIOD**. Tables like this are provided free of charge to growers looking for a quote.

# WEATHER CERTIFICATE TERMS

It is this simple:

- **STRUCTURE** – Rain Day and Cumulative Cover
- **RISK PERIOD** – 14<sup>th</sup> through to 28<sup>th</sup> November
- **TRIGGER 1** – 2<sup>nd</sup> Day of rain >15mm
- **CONCURRENT TRIGGER 2** – >40mm
- **SUM INSURED** – \$100,000
- **PAYOUT PER Day** – \$25,000 up to a limit of \$50,000
- **PAYOUT PER MM** – \$833 up to a limit of 100mm or \$50,000
- **PREMIUM** – \$6480  
*(The premium is determined by the level in mm the grower wants the full sum insured to be paid.)*

Contact us for a free no obligation quote.

## WHAT DOES THIS MEAN?

For every day after 1 day over 15mm (**TRIGGER 1**) during the risk period you would receive \$25,000 up to \$50,000 plus for every mm over 40mm (the Concurrent **TRIGGER 2**) after the risk period has ended you will get paid \$833per mm up to \$50,000.

So in 2010 over a similar two week window, when we had 3 days>15mm and cumulative rain of 174 mm, you would have received the full sum insured of \$100,000. On the other hand if no rain fell the certificate would expire worthless, however you would be compensated by a good quality harvest.

The level in mm you want the full sum insured to be paid determines the premium you pay.

The certificate in years of a wet harvest has compensated him for lost quality and therefore lost income.

*For our Product Disclosure Statement, Financial Services Guide or Account Opening Forms, email us at [info@celsiuspro.com.au](mailto:info@celsiuspro.com.au).*