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CONTENTS **PAGE NOS.**

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India - Erratic monsoon rains cause 13% lag in area under paddy

Erratic monsoon rains have severely impacted planting of paddy, the main kharif crop. The area planted under paddy, a staple grown and consumed across India, is 13 per cent less this year compared to the last. India is the second largest producer of rice in the world after China, and the top exporter with 40 per cent share in the global rice trade. It is, however, a water intensive crop, conventionally grown by flooding fields.

Lower planting of the primary staple this year is concentrated in the states of West Bengal — the largest producer — alongside Uttar Pradesh, Bihar, Jharkhand and Telangana. Further, lower plantings have been reported from other leading producers, Chhattisgarh and Odisha. As on July month end, the area under paddy cultivation is lagging by a staggering 3.7 million hectares in these seven states, compared to the area planted by this time last year. The area deficit is close to a tenth of the Kharif rice acreage of 39.7 million hectares for the entire country. At an average yield of 2.6 tons per hectare, lower plantings have put close to 10 million tonnes of production at stake. Data from the India Meteorological Department show that till July end, monsoon showers have been above-normal — 9 per cent more than the long period average — at an aggregate level but lagging behind in major rice producing states dependent on rains.

While India has large public stocks of rice, over three times the norms, lower production in the ongoing Kharif crop season could lead to export curbs. That would come on top of an export ban on wheat announced mid-May, after a freak heatwave singed the winter harvest. India has targeted to produce 112 million tonnes of rice in the ongoing Kharif crop season spanning June-October. India’s annual rice production, including the winter harvest, was at 130 million tonnes in 2021-22. In 2021-22, India exported over 21 million tonnes of rice worth Rs 720 Bn ($ 9.5 Bn).

Source: https://theprint.in

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Primary & Secondary Perils

'Primary perils' are defined as those that have the highest loss potentials, are well-monitored, and usually covered by catastrophe models – here we refer mainly to earthquakes and tropical cyclones. 'Secondary perils', on the other hand, are those that generate small to mid-sized losses, such as hail, flood, tsunami, storm surge or bushfire (Australia, California, southern Europe).

Table 1
Distinction between primary and secondary perils, according to the event typology and monitoring in the re/insurance market.

	Event type	Re/insurance industry status	Examples
Primary perils	Natural catastrophes that tend to happen less frequently, but with high loss potential.	Traditionally well-monitored and managed risks in developed re/insurance markets.	Tropical cyclones, earthquakes, winter storms in Europe.
Secondary perils	Natural catastrophes that can happen relatively frequently, and *typically* generate low to medium sized losses.	**Independent secondary perils.** Less rigour in industry monitoring and modelling than for primary perils. Weaker exposure data capture and claims tracking.	Severe convective storms (including thunderstorms, hail and tornadoes), floods, droughts, wildfires, landslides, snow, freeze.
		Secondary-effects of primary perils. Not always explicitly modelled alongside the originating primary peril, less rigorous monitoring.	Tropical cyclone-induced inland flooding and storm surge; tsunamis, liquefaction and fire following earthquakes.

Source: Swiss Re Institute

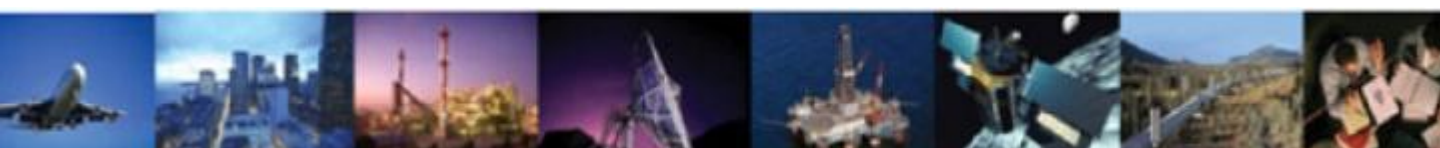
The industry witnessed the high risk and costs associated with secondary perils in 2021 as per below:

1. Winter storm Uri in Texas in February 2021, which caused widespread blackouts and extensive damage resulting in $15 billion insured loss, the most expensive winter storm on record.

2. Catastrophic flooding hit Germany, Belgium, and the Netherlands with *$13 billion insured losses*

3. Wildfires in Greece in September 2021 followed by major flooding and landslides in October - *118 fires destroyed more than 120,000 hectares*

Secondary perils accounted for 73% of all-natural catastrophe insured losses in 2021.



Challenges to handle Secondary Perils

Due to the universality of secondary perils – combined with their highly localized nature, which can be substantially shaped by human behavior – these events often are regarded as **too complex to model**. For example, rapid urbanization, e.g., by increasing the amount of paved surface in previously undeveloped areas, can result in rainwater having nowhere to go during and after a storm Likewise, cyber risk or infectious disease, are causing greater losses or garnering greater attention for different reasons; cyber risk, for example, was unknown 20 years ago, and today liability risk is a growing concern.

Impact of Climate Change

Secondary perils are typically weather-related, so it is expected that climate change will have an influence on secondary peril loss outcomes in the future. As the world warms, we will experience increased atmospheric energy, i.e., more storms; a warmer atmosphere, which can absorb more moisture leading to more intense rainfall events; and more heatwaves driving an increase in wildfire/bushfire losses.

For example, according to the World Meteorlogical Organization (WMO), the impact of climate change is felt in Korea in terms of precipitation, as warmer air can hold more moisture. Average temperatures in the Korean Peninsula have increased substantially from 1912 to 2008 (+1.7°C), which has in turn led to an increase in rainfall (+19%).

While analysing reasons of July Floods in Sydney, NSW Australia scientists found out that extraordinarily warm waters off the Australian coast, 21 to 23 degrees Celsius (70 to 73 degrees Fahrenheit), provided extra energy and moisture to a deep trough and east coast low, concentrating heavy rainfall to one 24-hour period. They opine that in a warming planet, there is more moisture in the atmosphere. So, when it rains, more water comes down with it.

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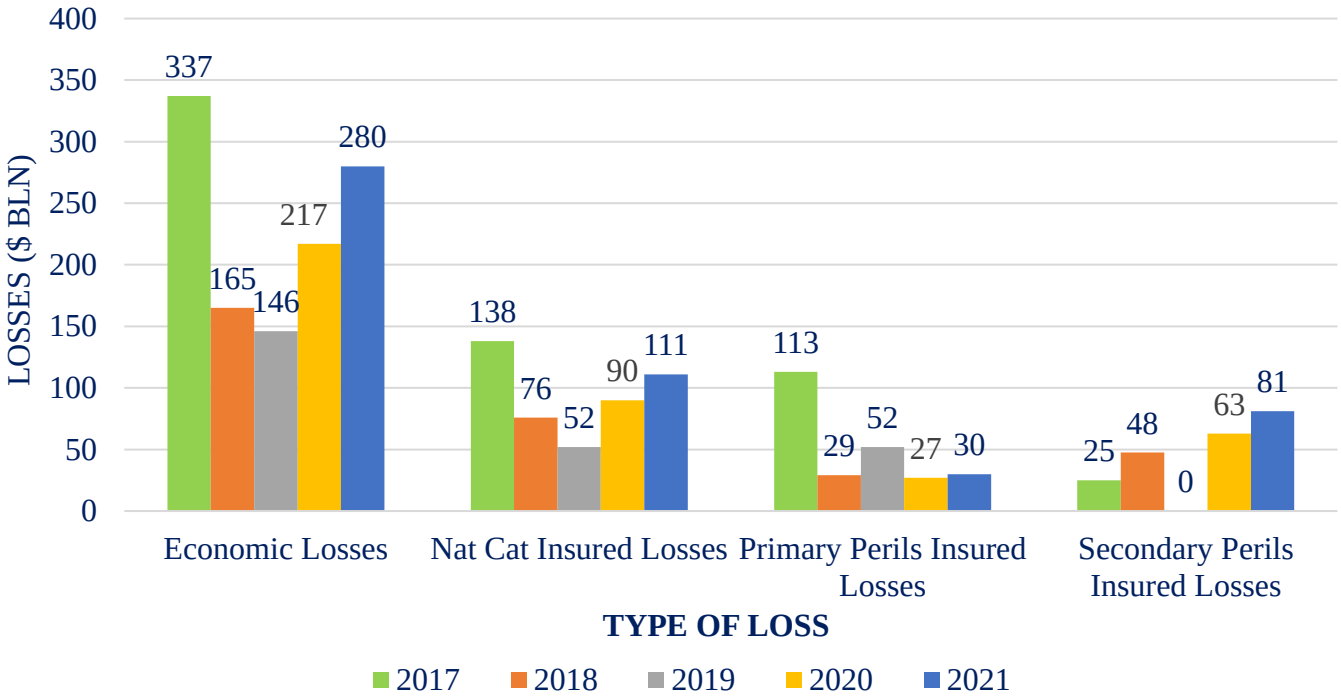
Comparison of Losses



NB: Secondary Perils Insured Losses for 2019 is not available.

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