

THE BUSINESS OF CLIMATE CHANGE

Supply Chain Continuity Risks & How to Proactively Manage Impact

In a world where climate change can impact every part of the supply chain, it's no longer business as usual for agricultural, food and beverage companies. As a result, now is the time for your company to take action on mitigating risk so you can sustain and grow your business into the future.

The key to success will be bolstering supply chain continuity, and adapting your business strategy and operations to proactively manage ongoing risks. While adaptation will add cost, as you'll see below, failing to do so can prove far more costly.

RISK 1

LANDSLIDES

A May 2016 landslide in China caused **\$820 million** in economic damage.¹



Supply Chain Impacts



Production
Production facilities can realize serious damage from rising flood waters, halting production and causing expensive cleanup costs.



Distribution
Routes can be cut-off or blocked by fallen debris, impairing your ability to get the materials you need and/or deliver your products to customers.

Landslide Risk Pearl River Delta, China



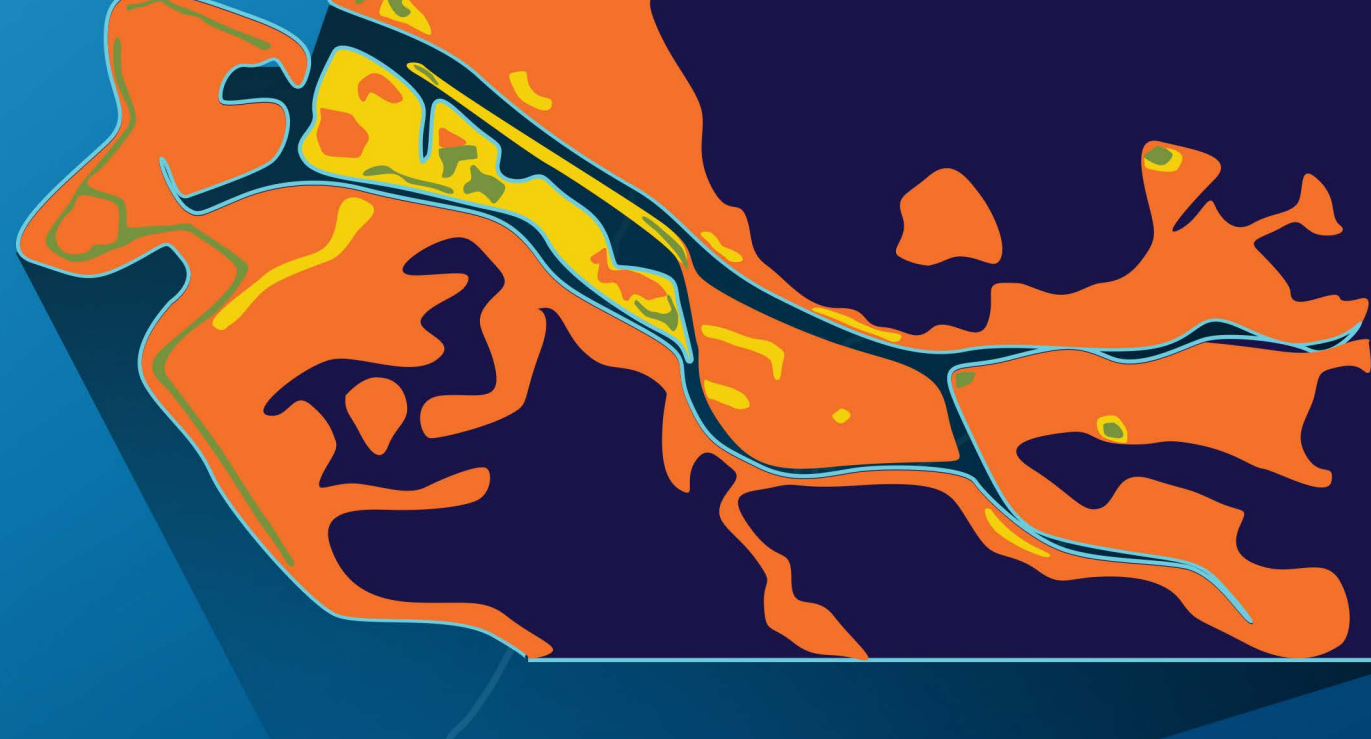
HOW TO ADAPT

Use hazard maps and intelligence tools to inventory landslide prone areas around your facility and along your distribution routes. The insights you uncover will allow you to prioritize risk and execute a strategy for improving infrastructure safeguards, moving facilities out of risky areas and establishing alternative distribution routes.

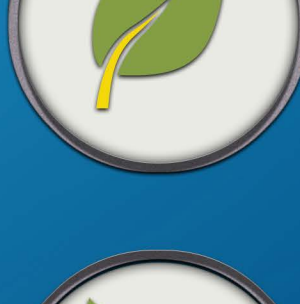
RISK 2

FLOODS

The Netherlands could spend up to **€80 billion** to adapt to the increasing risk and frequency of floods.²



Supply Chain Impacts



Raw Materials
Floods can destroy crops, displace livestock and wash away nutrient rich topsoil.



Production
Production facilities can realize serious damage from rising flood waters, halting production and causing expensive cleanup costs.

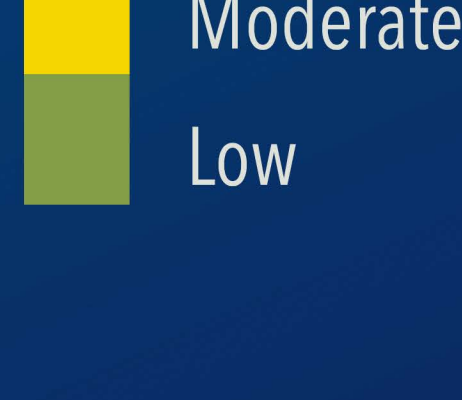


Distribution
Floods damage roads and cut off travel, preventing you from receiving essential ingredients or getting your products to your customers.



Customer
If you're unable to deliver product to your regional customers, they could lose market share and look for new partners to fill the gap.

Flood Risk Rotterdam, Netherlands



HOW TO ADAPT

Assess the flood risk level where your facilities are located, and engage experienced civil engineers to design dikes, refuge areas and artificial banks for critical equipment. These flood controls will help you mitigate facility damage in the event of a flood.

RISK 3

DROUGHTS

An estimated **50%** of São Paulo, Brazil's 270,000 hectares of orange growing area will become unsuitable for this crop by 2050.³



Supply Chain Impacts



Raw Materials
Changes in seasonal weather patterns can affect the immediate supply of raw materials, as well as the long-term sourcing of those raw materials, because crops will no longer continue to grow in areas where they once thrived and growers will move operations to new lands to support their business.



Production
Droughts often spur water restrictions, interrupting the amount of ingredients you're able to bring in for production and also your ability to turn those ingredients into your end product.



Customer
Droughts often cause commodity shortages and drive prices up, forcing companies to choose between holding prices steady and eroding their margins, or raising prices for consumers, which can decrease market share or spur a shift in brand loyalty.

Suitable Growing Area Sao Paulo, Brazil



HOW TO ADAPT

Identify the drought-prone areas where your suppliers operate, and look for new opportunities to expand your supplier network. In addition, invest in a back-up water supply and aim to reduce consumption as much as possible through innovation. If you're unsure where to start, partner with an experienced environmental consulting firm with the tools to identify risks, unearth new opportunities and prioritize actions.

You can't prevent landslides, floods or droughts from occurring, but you can take steps to mitigate the negative impacts they could have on your business. To help identify and reduce these risks, Antea Group has wide-ranging technical capabilities, and has developed a predictive risk assessment tool that can calculate the level of risk and pinpoint areas that are the most vulnerable.

Don't wait for disaster to strike. Take action now to determine your level of risk and put a strategy in place to avoid costly business consequences.



SCHEDULE A BUSINESS RISK ASSESSMENT

Sources

1. <https://www.statista.com/statistics/267837/economic-damage-caused-by-mudslides/>

2. <http://www.climatechangespacialplanning.nl/media/default.aspx/emma/org/10354094/34-44+Adaptation+cost+in+the+Netherlands++Climate+Change+and+flood+risk+management.pdf>

3. Antea Group expert opinion based on IPCC data (2016)