



The need to feed more and more people challenges agricultural systems around the world and puts food related risks high on the political agenda.

Food safety and food security

To feed a global population estimated to reach 9 billion by 2050, food production will have to increase by roughly 70%, putting agricultural systems under severe pressure. Meeting these challenges will require significant increases in investment, innovation and collaboration among all stakeholders. Therefore food-related risks are high on the political agenda and they are classified as one of the largest risks to societies in the next decades. Food risks include both food safety and food security.

Food safety refers to the conditions and practices that preserve the quality of food to prevent contamination and foodborne illnesses. Unsafe food is responsible for a broad variety of acute and chronic diseases, ranging from diarrhea to severe organ damage. Serious outbreaks of foodborne diseases have been documented on every continent in the past decade and in many countries the rate of illnesses is increasing significantly. The World Health Organization (WHO) estimates that food- and waterborne diarrheal diseases are one of the leading causes of death in particular for children in developing countries. According to the Centers for Disease Control and Prevention (CDC) diarrheal diseases kill more than 2,000 children worldwide every day.

The other dimension of food risk is food security. As expressed already in the 1996 World Food Summit: "Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary need and food preferences for an active and healthy life." Food security is built on the pillars availability, stability, access and use. On average people require about 2,300 calories per day to live a healthy and active life. Among high income countries there is enough food to allow for consumption of 1,000 calories in excess of this benchmark, while in low income countries food supply in many cases falls substantially below 2,300 calories. Main threats for food security are global population growth, urbanisation, climate change, water scarcity, and resource competition.

Food supply is influenced by several factors, where rising frequency and severity of weather events like flooding, droughts or windstorms seems to be the most important

one. Insurance has proven to be a crucial element of agricultural risk management. Agricultural insurance has a long history in established markets of the US and Europe and has become increasingly prominent in emerging markets as well. The most important insurance solutions are:

- Damage-based crop insurance
- Yield-based crop insurance (MPCI – Multi-peril crop insurance)
- Index-based crop insurance
- Livestock insurance
- Aquaculture insurance
- Forestry insurance
- Greenhouse insurance

In addition to providing risk protections for farmers and producers the insurance industry can also contribute to solutions for governments, communities or large public and private institutions, for example by entering into public-private partnerships or by setting up micro-insurance schemes.

Contaminations of food products as well as crop and livestock diseases represent substantial risks for the food supply chain. Food may be contaminated by microorganisms or toxic substances during production, manufacturing and storage. Foodborne illnesses are still experiencing upward trends in many regions. Outbreaks of livestock epidemics may also lead to losses for the food industry and impact the supply chain. An example is the H7N9 bird flu outbreak in 2013. As a consequence of these global developments there is a need for new Business Interruption (BI), Contingent Business Interruption (CBI), and Non-damage BI covers. Claims resulting from unsafe and contaminated food may also affect other lines of insurance business, namely product liability, product recall, or terrorism insurance.

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