

Agricultural Risk Management and Resilience: A Holistic Approach

October 2020

- Farmers face a variety of risks that affect their incomes and capacity to innovate. Climate change is expected to heighten risks and uncertainties in agriculture.
- A holistic approach to risk management for resilience should consider all factors that affect farm incomes and build the resilience of farmers to weather, markets, diseases or other shocks.
- Agricultural risk management policies should focus on catastrophic risks that are rare but cause significant damage to many farmers at the same time, and on building the capacity of the sector to prepare for and respond to risk under a wide range of future scenarios.

What's the issue?

The agricultural sector has always been exposed to price volatility – indeed, swings in product and input prices tend to be larger in agriculture than in other sectors. Risks arising from weather variability, natural hazards, pests and diseases are particularly harmful because agricultural production relies heavily on natural resources and climate conditions. Shocks to the market from both domestic and international sources, such as supply shortages due to drought or fluctuations in exchange rates, can result in price volatility. These risks directly affect the economic returns from agriculture, the livelihood of farmers and, in the long run, the capacity of farmers to invest and innovate.

Moreover, the agricultural sector is facing a growing and increasingly complex combination of risks. Climate change and resource scarcities are projected to increase the intensity and frequency of climate-related shocks, heighten the uncertainties in agriculture, and accentuate other risks. Recent crises, including COVID-19, have affected the food supply chain, resulting in unforeseen demand shocks and labour constraints in multiple countries. Instability in international trade policies also exposes agriculture to much more volatile market conditions.

The agricultural sector needs to become more resilient to these growing risks and increasing uncertainties. By building resilience – the ability to plan and prepare for, absorb, recover from, and adapt to adverse events – farmers will be better placed to cope with risks and uncertainties, and even benefit from the new opportunities they offer.

A holistic approach to risk management for resilience in agriculture

An efficient and effective policy approach to risk management in agriculture must take into account the interactions and trade-offs between different risks, on-farm strategies, and government policies. It is also important that policies do not encourage farmers to adopt riskier, or less efficient and unsustainable production strategies that prevent on-farm adaptation to climate change.

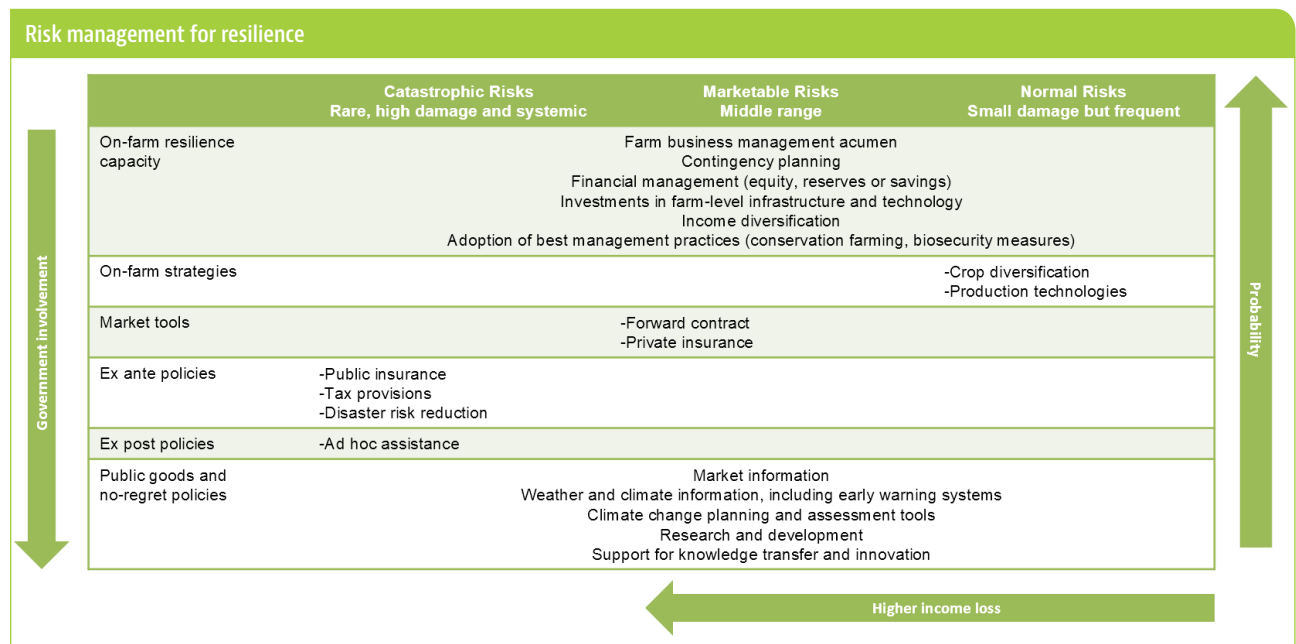
Instead, risk management policies should build the resilience of farmers and the food system more broadly. An optimal approach would include appropriate ex ante and prevention policies, and emphasise the capacities farmers need to adapt to – or transform in response to – a more uncertain future.

To design effective policies, the OECD has identified three layers of risks that require different responses:

- **Normal variations in production, prices and weather** do not require any specific policy response. Farmers can directly manage such frequent, but relatively low impact, risks as part of a normal business strategy, by diversifying production or using technologies that make yields less variable.
- **Marketable risks**, like hail damage, can be transferred through market tools, such as insurance and futures markets, or through co-operative arrangements between farmers.
- **Infrequent but catastrophic events**, like widespread droughts or disease outbreaks, may require government intervention. These risks can cause significant damage and affect many or all farmers over a wide area and will likely be beyond the capacity of farmers or markets to cope.



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There is also a role for no-regret policies and public goods that build agricultural resilience to risk under a wide range of future scenarios, and contribute to agricultural productivity and sustainability even in the absence of a shock.

Risk management frameworks should also encourage farmers to invest in their own capacity to manage risk – for example, by developing their entrepreneurial skills and adopting resilience-enhancing practices and technologies. This is because on-farm strategies, and the individual farmer’s overall capacity to manage risk, play a critical role in reducing risk exposure to catastrophic events, particularly over the long term (Figure).

What should policy makers do?

Governments should consider the following key actions to build resilience to agricultural risks:

- **Adopt a holistic approach to risk management for resilience.** They should consider the risk landscape over the long-term and emphasise ex ante measures to reduce risk exposure and prepare for possible risks; assess all risks and their relationships to each other (and avoid focusing on a single source of risk, such as prices); and analyse the trade-offs between different risk management strategies and policies, focusing on how each approach affects the sector’s capacity to absorb, adapt and transform in response to risk.
- **Increase co-operation and communication with stakeholders** in order to understand the capacity of farmers to manage risk and the additional resources needed to improve responses. Risk management policies should be developed with stakeholders to ensure that everyone understands the risk landscape and their responsibilities for managing risks.
- **Focus policies on catastrophic risks that are rare but cause significant damage to many farmers at the same time.** The procedures, responsibilities and limits of the policy response – including explicit

triggering criteria and types and levels of assistance – should, where possible, be defined in advance of the event.

- **Avoid providing support for the management of “normal” risks.** Minimum intervention prices or payments triggered by low returns may actually be counter-productive, as they tend to induce more risky farming practices.
- **Avoid policies that crowd out the development of private insurance markets,** such as subsidised insurance. Subsidising insurance can be costly for governments and has not deterred pressure for additional ad hoc government assistance after catastrophic events.
- **Provide an enabling environment for investments that strengthen resilience to risk** by building farmers’ capacities to absorb, adapt and transform in response to shocks. This includes effective regulation of insurance and water markets, and crosscutting investments in information, training and advice for farmers, and the development of on-farm and market-based risk management tools.



Further reading

- OECD (2020), *Strengthening Agricultural Resilience in the Face of Multiple Risks*, OECD Publishing, Paris, <https://doi.org/10.1787/2250453e-en>.
- OECD (2011), *Managing Risk in Agriculture: Policy Assessment and Design*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264116146-en>.
- OECD (2009), *Managing Risk in Agriculture: A Holistic Approach*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264075313-en>.

