AGRICULTURAL RISK MANAGEMENT FOR RESILIENCE

Highlights

- 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 take into account all factors that affect farm incomes when facing weather, markets, diseases or other shocks.
- Agricultural risk management policies should focus on catastrophic risks that are rare but that 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.
- As agriculture faces more frequent and intense natural hazard-induced disasters, it will be particularly important to move from coping mechanisms to building resilience to risk.

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 of the sector's dependence 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 energy prices and 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, thereby potentially reducing their capacity to increase productivity.

The agricultural sector is now facing a growing and increasingly complex combination of risks. Climate change and water scarcities are projected to increase the intensity and frequency of climate-related shocks, heightening uncertainties and accentuating other risks. Recent crises, including COVID-19, have affected the food supply chain, resulting in unforeseen demand shocks and labour constraints. Russia's aggression against Ukraine created price surges for grains and supply shortages for key inputs such as seeds and fertiliser. Instability in international trade policies also exposes agriculture to much more volatile market conditions and can threaten global food security.

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 these 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 and unsustainable production strategies. An optimal approach would include appropriate ex ante and prevention policies, emphasising 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. As part of their normal business strategy, farmers can manage such frequent, but relatively low impact risks, by diversifying production or using appropriate technologies.
- ***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, floods or disease outbreaks, may require government intervention. Causing significant damage and affecting many farmers over a wide area, these risks are beyond the capacity of farmers or markets to cope with.

There is also an important role for no-regret policies and for investment in public goods, like market, weather and climate information resources, research and development and knowledge dissemination that build agricultural resilience to risk under a wide range of future scenarios. These approaches 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 transforming using resilience-enhancing practices and technologies.

What should policy makers do?

Policy makers 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 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 to understand the capacity of farmers to manage risk and identify additional resources needed to improve their 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 investments in information, training and advice for farmers, and the development of on-farm and market-based risk management tools.

Further reading

Glauber, J., et al. (2021), "Design principles for agricultural risk management policies", *OECD Food, Agriculture and Fisheries Papers*, No. 157, OECD Publishing, Paris, https://doi.org/10.1787/1048819f-en.

OECD/FAO (2021), *Building Agricultural Resilience to Natural Hazard-induced Disasters: Insights from Country Case Studies*, OECD Publishing, Paris, https://doi.org/10.1787/49eefdd7-en

OECD (2020), *Strengthening Agricultural Resilience in the Face of Multiple Risks*, OECD Publishing, Paris, https://doi.org/10.1787/2250453e-en.

OECD (2009), *Managing Risk in Agriculture: A Holistic Approach*, OECD Publishing, Paris, https://doi.org/10.1787/9789264075313-en.