

PART 5

KEY MESSAGES AND POLICY RECOMMENDATIONS

Food value chains at all levels are increasingly vulnerable due to natural disasters and developing business continuity is a key concern for the policy makers. The three major gaps that hinder business continuity after disasters are the information gap, science gap, and policy gap. A comprehensive and standardised accounting of losses in agriculture is needed. A more systematic integration of scientific disciplines is desirable. The prevention of negative consequences from natural disasters such as averting fatalities and harm to infrastructures is a key concern in international cooperation. Damage to agricultural production networks and food value chains is often not registered, and methods on calculating damage vary in individual countries.

Developing countries, in particular, suffer from loss and damage from disasters where the agricultural sector accounts for 25% of them. Damage within the food supply chain has to be classified into production damage, transportation damage, and storage damage. Disasters cannot be seen on market prices; the matching of small and large scales is imperfect. Global food value chains include richer and poorer countries with lower or higher dependence on the agricultural sector.

The provision – or non-provision – of instruments, plans, or institutional measures either by countries or political systems can ease or aggravate disaster impacts on food supply chains. Guidelines on tools development, data collection, and measurements (indicators-indexes) for making possible improved regional evaluations/comparisons of impacts, vulnerabilities, and local capacities such as the level of entrepreneurship or attitudes to handle natural hazards, should be elaborated with the participation of Organization for Economic Co-operation and Development, Economic Research Institute for ASEAN and East Asia, and Food and Agricultural Organization, and disseminated broadly in member countries.

It is difficult to predict the degree and severity of disasters and issue an appropriate warning time. The trend to the integration of production networks with markets according to 'just in time' and 'just in sequence' increases interdependencies. This also increases the vulnerability to disasters from far away. In particular, oligopolistic markets can exploit disasters for business advantages at the expense of other players. counteract national emergency relief funds.

An unsolved issue is the benefits and costs of individual and society. Private weather insurance schemes counteract national emergency relief funds. Some risks cannot be insured while others are compensated by the state without adequate premiums.

Policies for resilient value chains should be sensitive to the local/regional differences; allow and stimulate the strengthening of local capacities, sustainable farming, and niche markets; and take particular local vulnerability into account. Value chain analysis is a valuable tool for integrating wider multi-scalar perspectives in regional policy. Whenever possible, governments should undertake cost-benefit analysis of policy responses that address individual risks like droughts, floodings, storms, hail, and frost at the national and regional levels.

Women, in particular, play a dominant role in local food value chains. Most women stay on farms throughout the year while their husbands often leave for seasonal work. Strengthening the position of women can also increase disaster resilience. A viable economy is often the precondition for planning prevention or mitigation actions against disasters.

Considering a territorial approach on agricultural production networks, one can see a close interconnection between agriculture and tourism in rural areas. Authentic local and regional food production – often in combination with organic food production – is a means to increase the value of local and regional food chains..

A key concern for any value chain – the food value chain, in particular – is activity. In many rural areas, the level of activity becomes limited. Actions with citizens from the outside stimulate innovation and feedback from other sources.

Resilience to disasters can be altered by better soil and water management. This is connected to a wider application of organic or precision agriculture methods, the availability and use of sophisticated climate information, the legal enforcement of land, use, and environmental protection strategies. Organic agriculture is a measure for sustainability, disaster prevention, and a higher value of the product. The interrelationship between improved soil and water management and higher prices for organic products should be further highlighted.

Water availability has to be matched by sustainable quantities of water. Any guarantee of water use not coupled to the weather and climate will increase the vulnerability of the agricultural sector. Good soil management is essential for sustainable water management. High organic content in soil stores several times the amount of water than soils with an average content in soil organic matter. Avoided erosion is also disaster prevention and an increase in water capturing capacity.

Agricultural policy incentives should support production decisions that increase the resilience of agro-ecological systems and decrease the vulnerability to natural disasters. Problems observed are related to insurance subsidies or guaranteed prices which stimulate farmers to increase risk exposure.

Data-driven information helps stakeholders understand systems and processes and is a means to design scenarios and see the impact on system dynamics. The broad application of data-collecting instruments depends on their cost. It is expected that these instruments will become more affordable in the future. Particular forms of smart farming and ICT in agriculture – reaching from disaster information or warning to partly (glasshouse) or full (plant factory) environmental control – can avoid disaster loss and damage in agriculture. The costs of investments in ICT-related disaster prevention in agriculture are currently too high for most farmers. Therefore, state programmes should allocate some means to support private investments for technology-driven innovations.