Defining resilience to multiple shocks and stresses in the context of city region food systems

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The concept of resilience is often defined as the capacity to withstand, absorb, or 'bounce back' from the impacts of a shock, but this is only part of the story. Resilience-building also requires preventive and anticipatory actions to reduce risks and their impacts, actions to adapt to them and, when the structures and processes that sustain a system are no longer tenable, transformative actions. With current global, national and local food systems facing growing risks and uncertainties from multiple threats (such as climate change, conflicts and pandemics), there is an urgent need to build all resilience capacities together within city region food systems.

The common resilience discourse[1] refers to resilience-building as a process for strengthening five key capacities within and across sectors to enable stakeholders to *build forward better*.

1. **Preventive capacity:** The ability to implement activities and take measures to reduce existing risks and avoid the creation of new risks. While some risks cannot be eliminated, preventive capacity aims at reducing vulnerability and exposure in certain contexts where, as a result, the risk is reduced.
2. **Anticipatory capacity:** The ability to take early action in anticipation of a hazard to reduce its potential negative impacts, including through access to early warning systems, and forecast-based financing of risk-reduction measures.
3. **Absorptive capacity:** The ability to take protective action and 'bounce back' after a shock using predetermined responses, such as risk insurance and shock-responsive, risk-specific social protection to preserve and restore essential basic structures and functions. This involves anticipating, planning, coping and recovering from shocks and stresses.
4. **Adaptive capacity:** The ability to make incremental adjustments or modifications to the infrastructure, practices and interactions to moderate potential impacts, in order to continue functioning without major qualitative changes in function or structural identity.
5. **Transformative capacity:** The ability to create a fundamentally new system when ecological, economic or social structures make the existing system untenable. Transformative capacity is required when the change needed goes beyond the system's preventive, anticipative, absorptive and adaptive abilities and when there is recognition that people continue to be trapped in a vicious circle of poverty, disasters and conflict.

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[1] Adapted from the UN Common Guidance on Helping Build Resilient Societies: Final Advance Draft - September 2020. https://www.sparkblue.org/system/files/2021-07/UN%20Resilience%20Guidance_Final_6%20Oct_no%20foreword_0.pdf.

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Importantly, resilience capacities at different levels (i.e., at the individual, household, community, city, subnational, national, regional and global system levels) can interact and influence each other. For example, strong transformative governance capacities at the national level that recognize the importance of locally-led territorial approaches for building resilience can also have positive effects on local city governments, leading to stronger integration and coherence between multiple levels of governance. Weak early warning capacities at the national level, on the other hand, can trigger city governments to invest in local capacities to increase anticipatory action. Capacities are also influenced by levels of income and education, social-cultural norms and prevalent gender inequalities of the people whose livelihoods depend on food systems.

Resilient city region food systems

It is predicted that 68% of the world's citizens will live in urban areas by 2050, compared with 55% in 2018, with over 90% of that increase expected in developing countries. While investments in building resilience capacities and addressing the root causes of vulnerabilities are needed at the global scale, it is people who depend on local food systems in developing countries who are most at risk. This is also where the demand for food and essential services is growing disproportionally, along with rising levels of malnutrition and pressures on national social, economic and environmental resources.

In a diverse risk landscape such as the city region food system (see box p. 16), the combination of climate change and other hazards – including those related to COVID-19 containment measures – has exposed significant vulnerabilities.

There is an urgent need to enhance the resilience of city region food systems, where local food systems are understood as embedded in a complex and interdependent rural-urban continuum and where the disruption to one part of the system can have knock-on effects in other parts. For instance, if distribution channels are impacted by a hazard (e.g. flooded roads, fuel shortages), the production node will be affected as farmers will have no means to get produce to market. Post-harvest loss of perishable produce will lead to more food and organic waste. Markets and consumption will also be affected by food shortages, prices will increase, and many people will not be able to afford staple food items.

Some example of resilience capacities of city region food systems are:

- Through extension services, farmers have had access to training on terracing, enabling them to adapt in advance of future flooding events (prevention).
- Farmers have access to early warning systems and are able to harvest crops before adverse events and move animals to safety (anticipation).
- Government has a high eligibility threshold for disaster relief funds, meaning farmers have assistance to help them cope with the impacts of a hazard (absorption).
- Warehouse operators receive insurance payments to compensate for lost stocks; traders who lost business premises can share others' facilities (absorption).
- Market traders with IT skills and access to the internet are able to pivot their businesses, using apps or online tools to get food to customers directly (adaptation).
- Retailers have set up multiple supply chains for produce, meaning they have the capacity to continue trading if one supply chain is interrupted (prevention).
- Smallholder farmers adding value to their produce to generate additional income, and organising to develop a speciality value chain that allows them to set prices and market conditions (transformative).

What can governments do?

- Local governments and food system stakeholders can create the basis for resilience building through mainstreaming food systems in local development, urban and territorial planning, disaster risk reduction and resilience plans, strategies and policies on the one hand – and on the other hand by including risk reduction and resilience-building in local agriculture and food plans, strategies and policies.
- National and local governments should participate in inclusive and people-centred multi-stakeholder platforms (such as local food policy councils) to assess and understand the multiple risks faced by city region food systems and identify vulnerabilities, and then plan actions to address them.
- Municipalities within a city region should form networks to coordinate actions across rural and urban areas and to better align supply and demand of specific commodities, including identifying alternative value chains during crises (see examples from Quito, Medellin and Colombo in the article by Alison Blay-Palmer, p. 16).

Multi-risk and crisis management that facilitates resilience building can help address the challenges faced by contemporary local food systems. The approach presented here considers resilience to be about reducing vulnerabilities, managing risks and eventually creating thriving systems that are better equipped to face uncertainties and able to *build forward better*. As such, it can enable local food system stakeholders to design, adopt and implement policies, plans and investments for resilient, inclusive and sustainable city region food systems transformation. This, in turn, can advance work towards transformation of national, regional and global food systems.

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