



Tropentag, September 15-17, 2021, hybrid conference

“Towards shifting paradigms in agriculture  
for a healthy and sustainable future”

## Disruptions and Resilience of Agri-Food Value Chains in Light of the COVID-19 Pandemic: Review of Evidence and Implications for Future Responses

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### Abstract

We reviewed 129 studies published by research and development organisations that examined the effects of the COVID-19 pandemic on agri-food value chains to better understand the state of knowledge and possible gaps in coverage. Relatively well covered were the effects of COVID-19 restrictions at production, retail and consumption levels. In contrast, we found limited evidence on the effects of COVID-19 restrictions in the midstream segments of value chains (processing, wholesale) or as regards the provision of inputs and services. Responses by public and private sector organisations were fairly well covered, as opposed to NGO interventions and their effects. Geographic coverage was strongest for Asia and Africa but much weaker for Latin America and the Caribbean. Value chains of perishable products, such as fruits and vegetables, dairy and other animal products, were more affected than those of more durable products, such as cereals, roots and tubers. We did not find a clear-cut picture as regards the resilience of domestic vis-à-vis global value chains.

Gaps in evidence were largely due to insufficient thematic or geographic coverage, not necessarily to limited effects of the pandemic as such. In few cases, baseline data were available against which observed disruptions could be assessed. Pre-existing conditions which may compromise value chain performance in addition to the effects of the pandemic and lockdown measures often went unnoticed.

Looking forward, results highlight the need for addressing relevant coverage gaps and knock-on effects, such as yield reduction due to limited use of fertilisers and agrochemicals, demand-supply shifts, business closures, restructuring (reshoring, digitalisation), availability of finance and credit, and impacts on human nutrition and health. We present a conceptual framework for addressing such gaps and effects and conclude with suggestions how governments, businesses and NGOs can prepare better for future crises by increasing the resilience of value chains, or segments thereof, which proved particularly vulnerable to the effects of the pandemic.

**Keywords:** COVID-19, public and private policy, research gaps, resilience, value chains